Den Engin Drawing 2 ed 58 ed Educational Pubs Inc. = Ser. A RAM 25 May 50

L	T	E	H
K	E	F	X
V	A	N	Y
Z	M	W	O
Q	C	G	S
B	D	P	R
U	J	G	&

ENGINE, SCIENCE, POWER, KINETICS, BEARING.

FORCE, WORK, UNIT, FREE BODY, MACHINES.

FILE	VERTICAL LETTERING	DR. BY.	DATE	1 A

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1	2	3	4
5	6	7	8
9	10	56	38
$2\frac{3}{16}$	$5\frac{1}{32}$	$8\frac{5}{64}$	$7\frac{3}{4}$
$36\frac{1}{8}$	$42\frac{7}{8}$	$69\frac{1}{16}$	$83\frac{25}{32}$

DRAWING INSTRUMENTS MECHANISM FLEXIBLE LINKS COMPANIES

$56\frac{1}{2}$	$48\frac{3}{16}$	$6'-4\frac{1}{2}''$	$25'-3\frac{1}{32}''$

FILE		DR. BY.	DATE	2A

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a c e i

m n o r

s u v w

x z b d

f h k l t

g j p q y

vertical lower case books plates manual sun .

motion is relative slider crank cams gears layer

FILE		DR. BY.	DATE	3 A

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I T L H

K E F X

V A N Y

Z M W O

Q C G S

B D P R

U J G &

SCALE DIMENSIONS POWER MECHANISM

DEPARTMENT OF ENGINEERING DRAWING

FILE		DR. BY.	DATE	4A

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1	2	3	4
5	6	7	8
9	10	56	39
$3\frac{5}{16}$	$8\frac{3}{32}$	$5\frac{9}{64}$	$2\frac{7}{8}$
$53\frac{1}{8}$	$42\frac{5}{8}$	$69\frac{27}{32}$	$87\frac{3}{16}$

TRANSMISSION OF MOTION VELOCITIES AND ACCELERATIONS

$46\frac{3}{4}$	$95\frac{3}{16}$	$8'-7\frac{1}{2}''$	$23'-4\frac{19}{32}''$

FILE		DR. BY	DATE	5 A

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a c e i

m n o r

s u v w

x z b d

f h k l t

g j p q y

inclined lower case orthographic manual

mechanical vibrations inertia forces vector

FILE		DR. BY.	DATE	6 A

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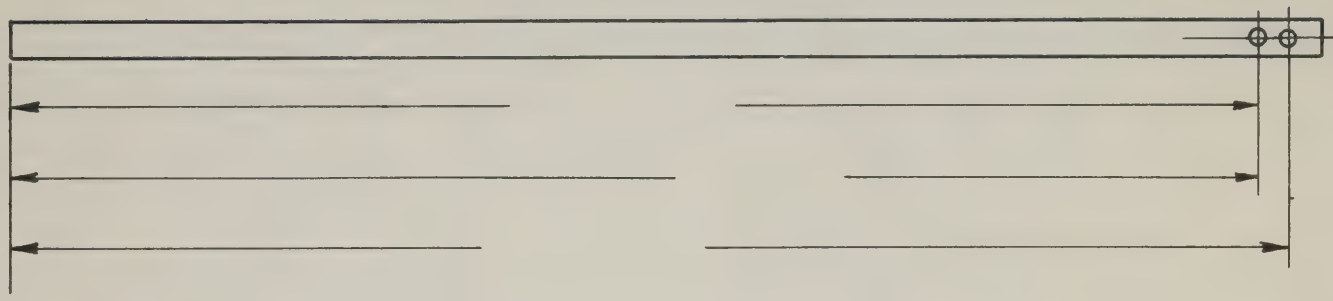
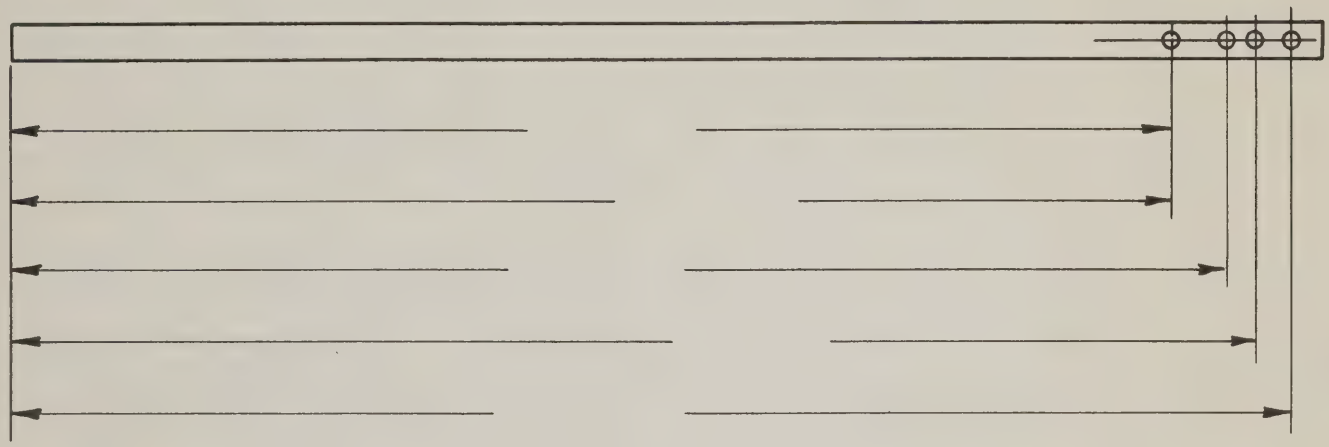
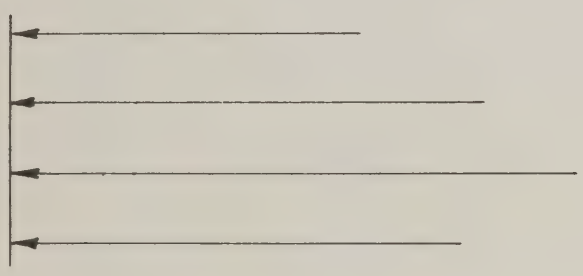


Scale	Size
12" = 1'-0"	Full
9" = 1'-0"	$\frac{3}{4}$" = 1"
6" = 1'-0"	$\frac{1}{2}$" = 1"



3" = 1'-0"	$\frac{1}{4}$" = 1"
$1\frac{1}{2}$" = 1'-0"	$\frac{1}{8}$" = 1"
1" = 1'-0"	$\frac{1}{12}$" = 1"
$\frac{3}{4}$" = 1'-0"	$\frac{1}{16}$" = 1"
$\frac{1}{2}$" = 1'-0"	$\frac{1}{24}$" = 1"

DRAW THE FOLLOWING LENGTHS TO SCALE



Scale	Length
3" = 1'-0"	$23\frac{1}{2}$" LG.
$\frac{1}{2}$" = 1'-0"	12'-$5\frac{1}{2}$" LG.
$\frac{3}{8}$" = 1'-0"	15'-6" LG.
$\frac{1}{4}$" = 1'-0"	26'-9" LG.

FILE		DR. BY.	DATE	7A

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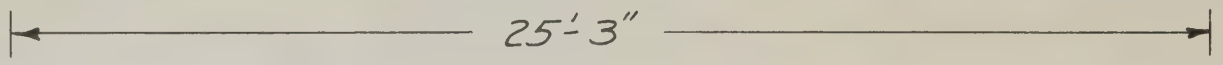
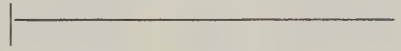
DRAW THE FOLLOWING LINES TO THE GIVEN SCALE BETWEEN VERTICAL LINES

25'-3" Scale $\frac{1}{4}$"=1'-0" 

17'-6" " $\frac{3}{8}$"=1'-0" 

12'-3" " $\frac{1}{2}$"=1'-0"

8'-8" " $\frac{3}{4}$"=1'-0"

6'-8$\frac{1}{2}$" " 1"=1'-0"

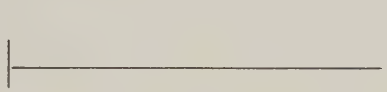
4'-5$\frac{1}{4}$" " 1$\frac{1}{2}$"=1'-0"

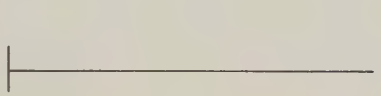
2'-4$\frac{1}{4}$" " 3"=1'-0"

13$\frac{1}{8}$" " 6"=1'-0"

8$\frac{7}{8}$" " 9"=1'-0"

6$\frac{11}{16}$" " 12"=1'-0"

4$\frac{1}{2}$" " 1.5'=1'-0" 

3$\frac{5}{16}$" " 2.0'=1'-0" 

FILE		DR.BY.	DATE	8A

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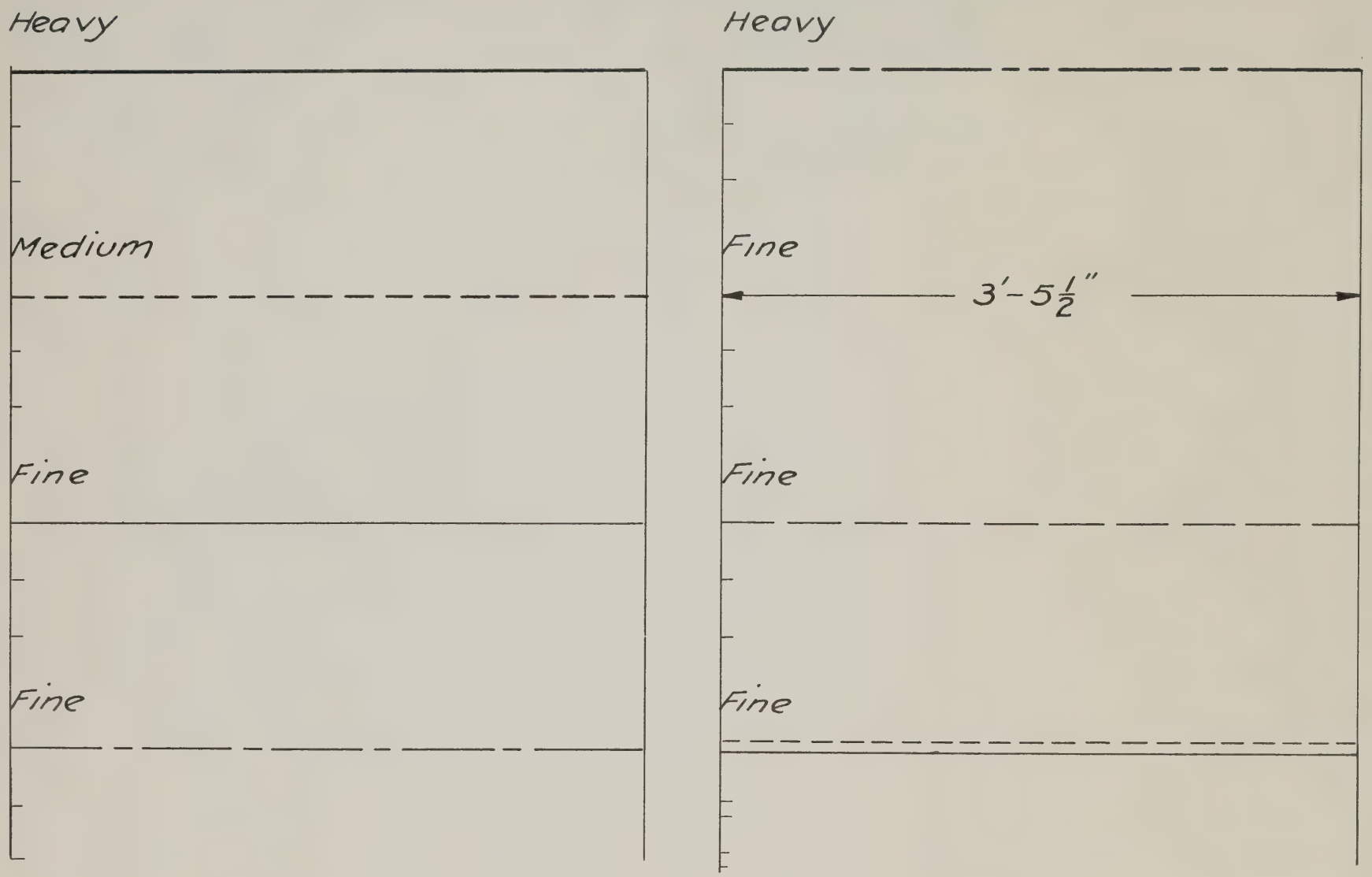
COPY THE LINES IN PENCIL THEN IN INK



FILE		DR. BY.	DATE	9A

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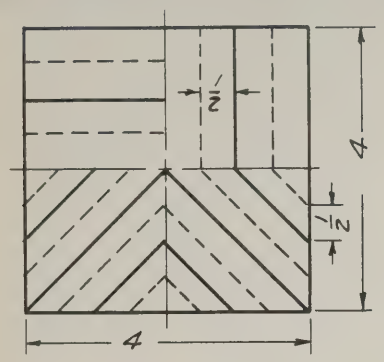

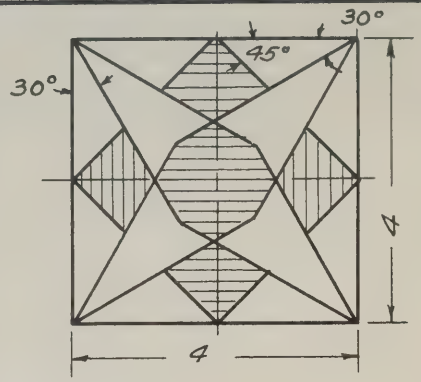

Draw both figures in full size.

FILE		DR. BY.	DATE	10A

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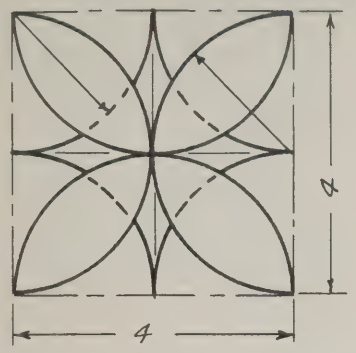

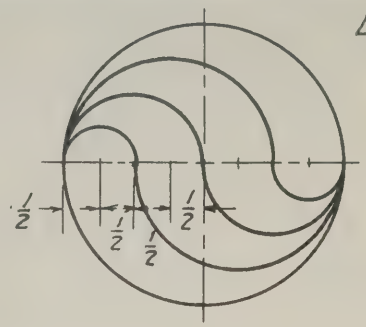

Draw both figures in full size.

FILE		DR.BY.	DATE	11A

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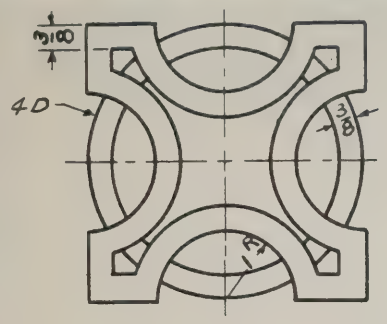

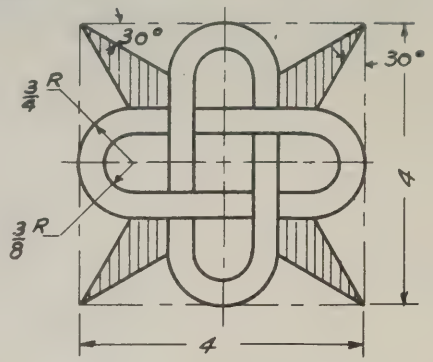

Draw both figures in full size.

FILE		DR. BY.	DATE	12 A

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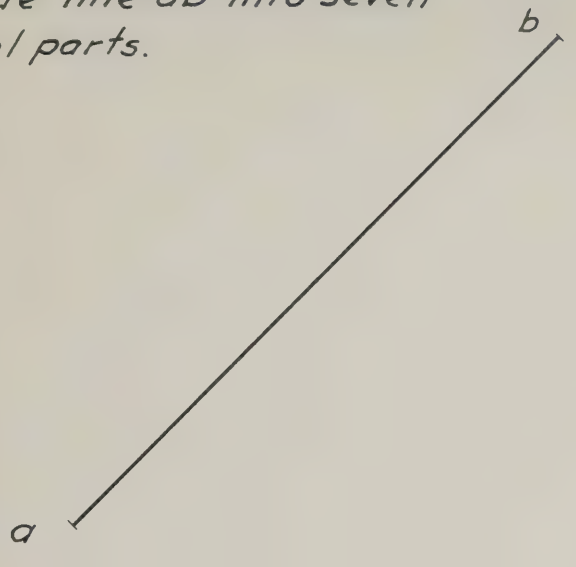
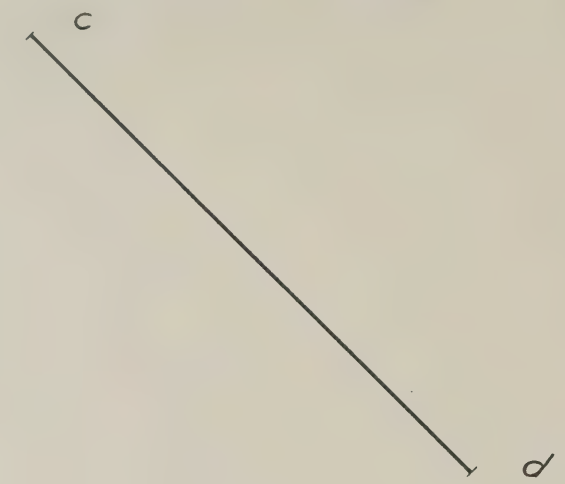
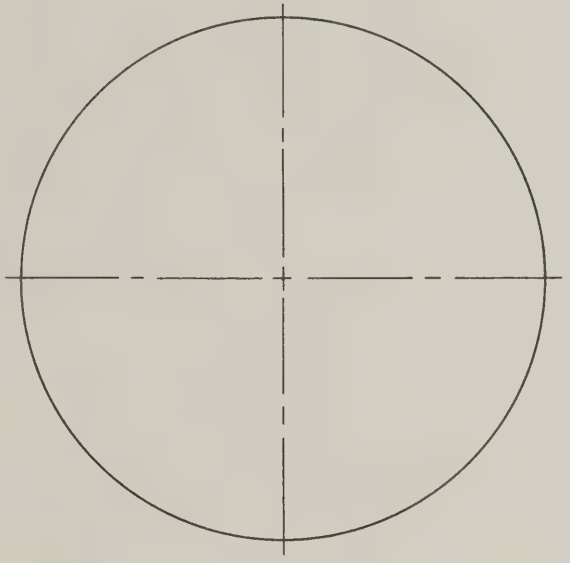
Divide line ab into seven equal parts.



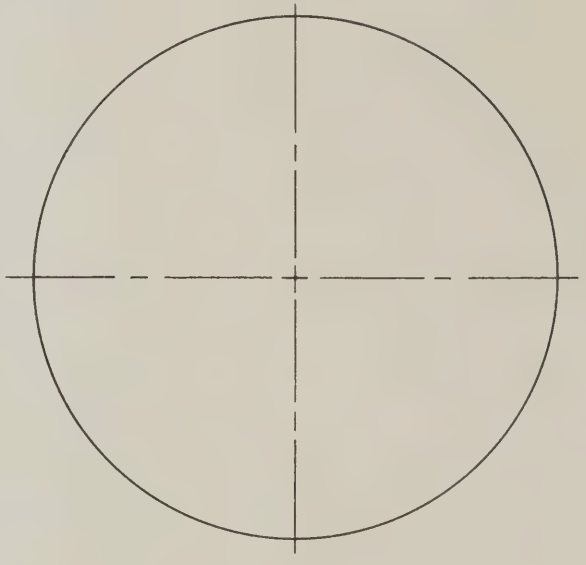
Divide line cd into 1, 3, 5 proportional parts.



Circumscribe a hexagon.



Inscribe a pentagon.



FILE		DR. BY.	DATE	13A

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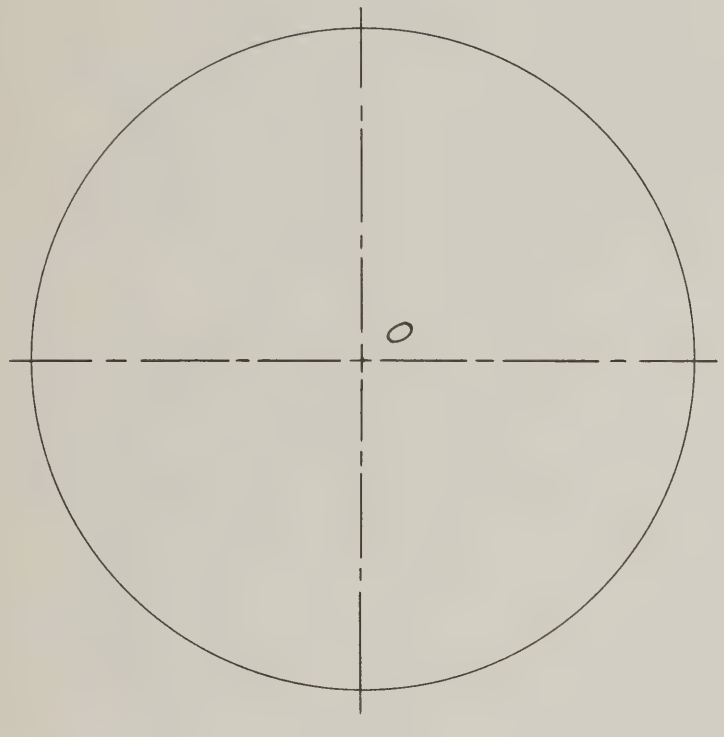
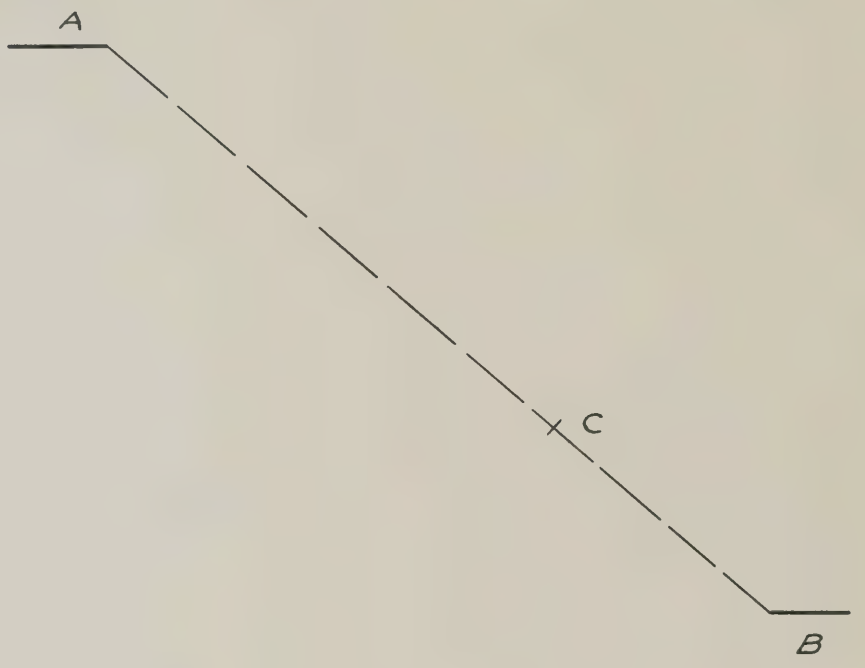


Inscribe a seven side polygon.



Connect points A and B with two curves to meet at point C.

FILE		DR.BY.	DATE	14A

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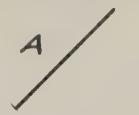
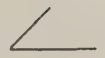
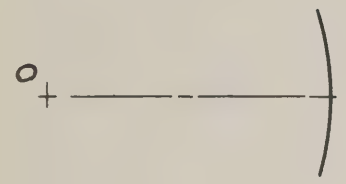
Connect lines A and B with a $\frac{3}{4}$ rad. curve.

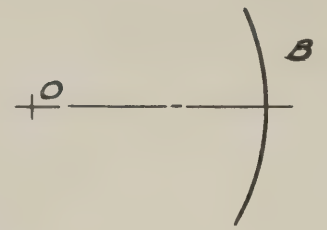


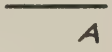


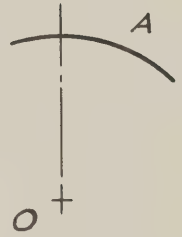


Connect the given curves with a $\frac{5}{8}$ rad curve.

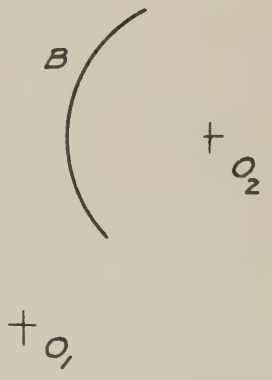
Connect line A to curve B with a curve of $\frac{3}{4}$ rad.







Center at O_1 draw a curve to meet curve B. Connect curve of O_1 to curve A with a tangent line.



FILE		DR. BY.	DATE	15 A

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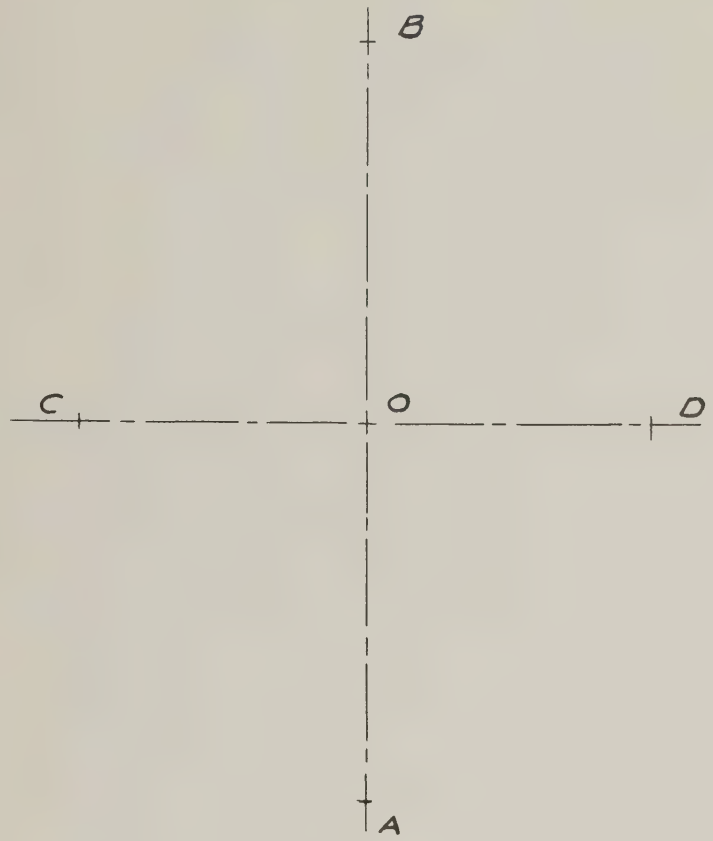
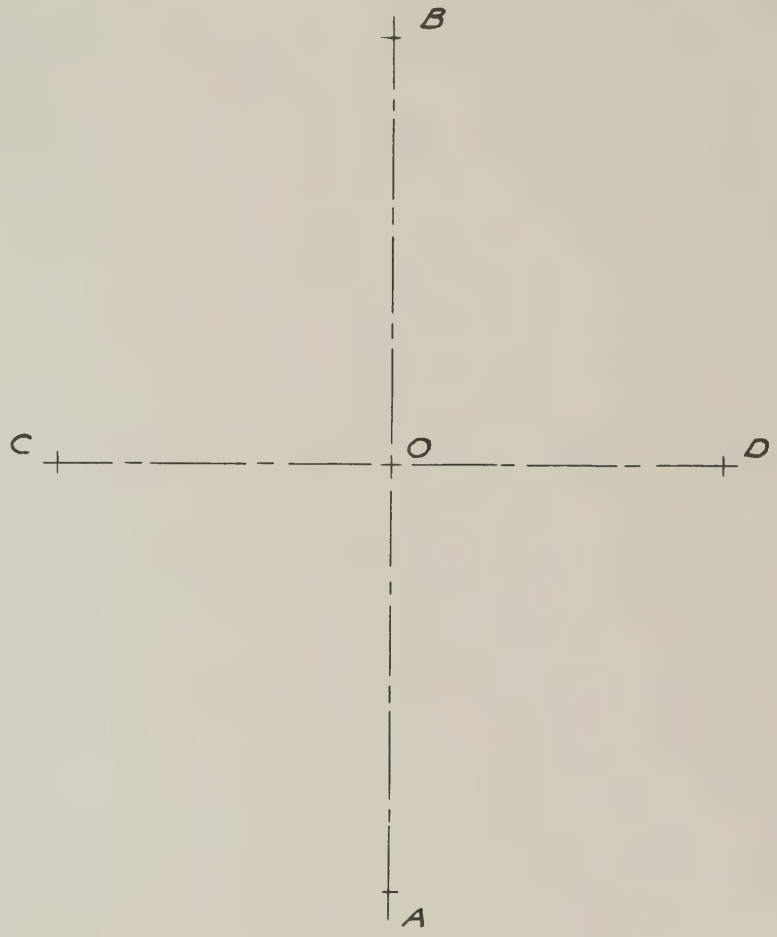
Draw an ellipse by four center method.



Draw an ellipse by parallelogram method.



FILE		DR.BY.	DATE	16A

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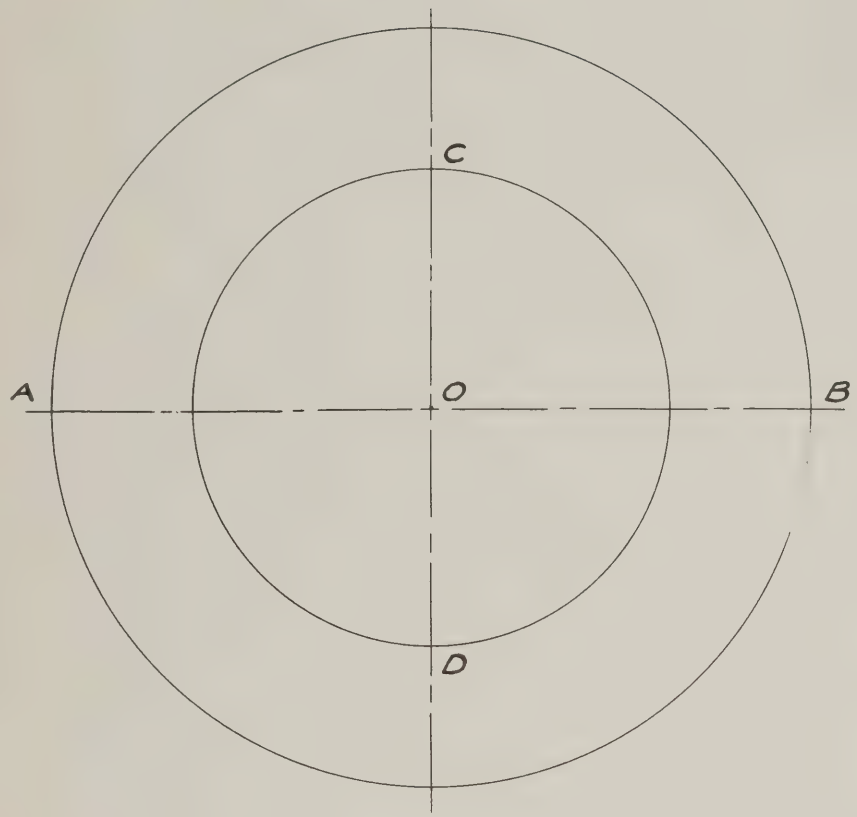
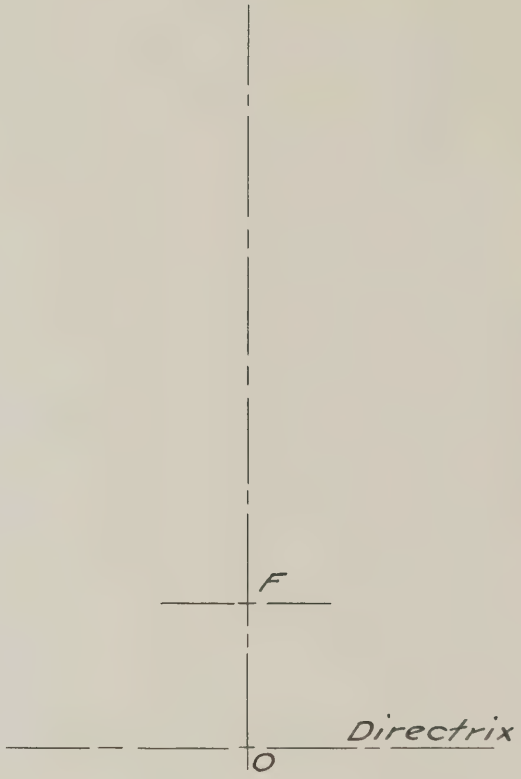
Draw an ellipse through A-B-C-D.



Draw a parabola:



FILE		DR. BY.	DATE	17A

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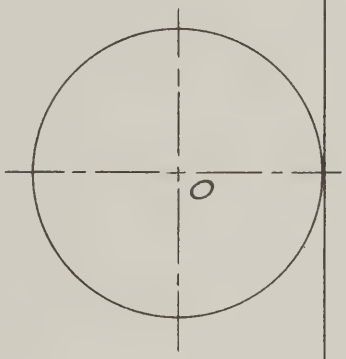
Draw right and left involutes each for 180°



Draw a cycloid for 180°.

FILE		DR.BY.	DATE	18 A

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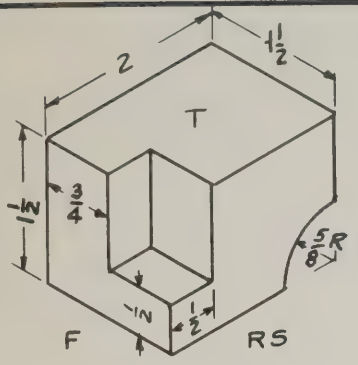
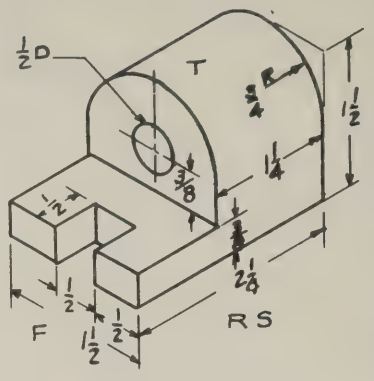
Draw three views of each figure in freehand and name each view.





FILE		DR.BY.	DATE	19 A

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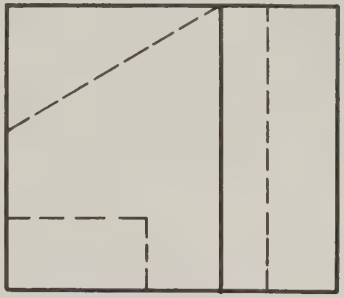
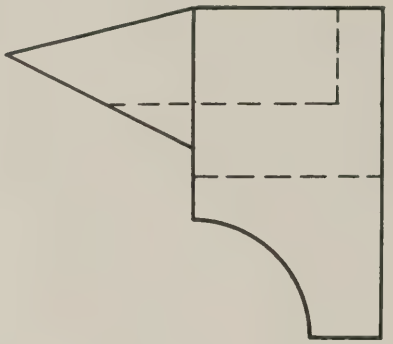
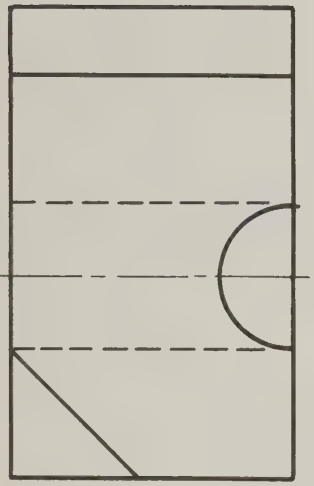
From given views draw the third views as indicated and name each.

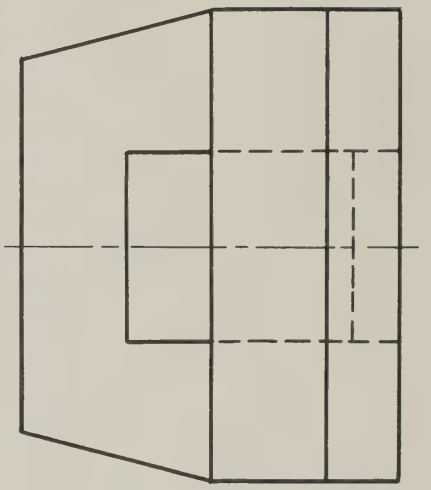






Here

Here



FILE		DR.BY.	DATE	20A

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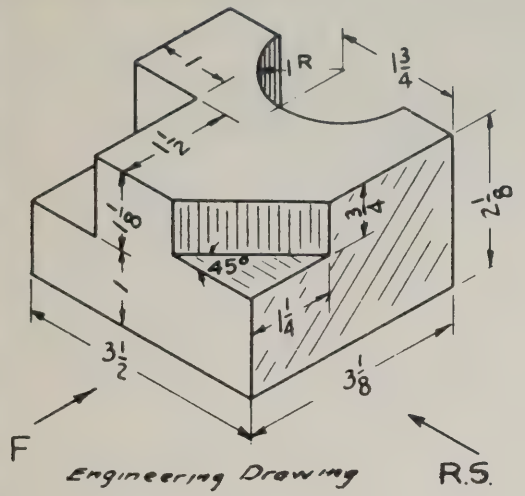

Engineering Drawing

Draw front, top, right and left side views.

F

Scale 9"=1'-0"

FILE		DR. BY.	DATE	21A

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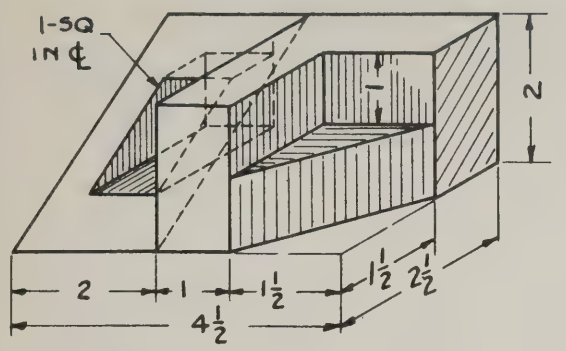

F *Engineering Drawing*

At the indicated places drow front, top, and left side views.

F

Scale 12"=1'-0"

FILE		DR.BY.	DATE	22A

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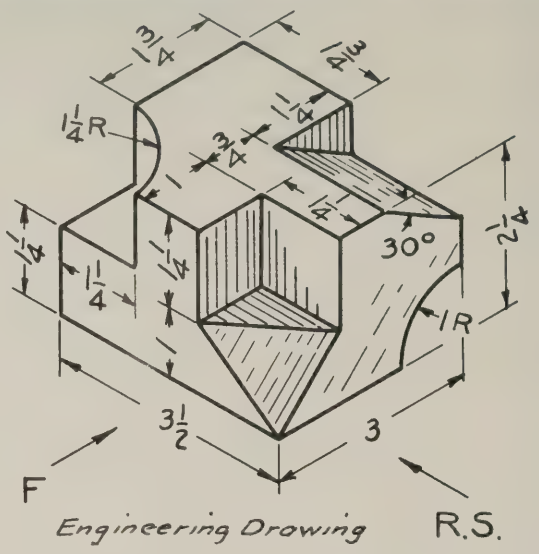

Engineering Drawing

Draw front, top, and right side views. Give dimensions, width __ height __ length __

F

Scale 9"=1'-0"

FILE		DR.BY.	DATE	23A

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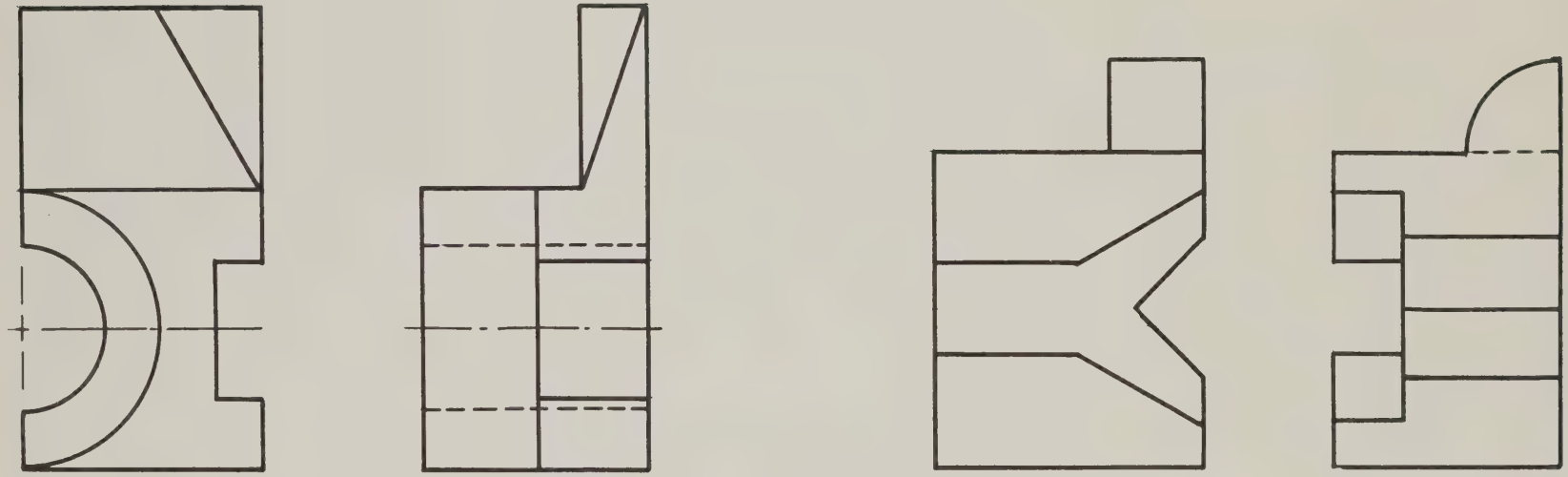
Add third views.



FILE		DR.BY.	DATE	24 A

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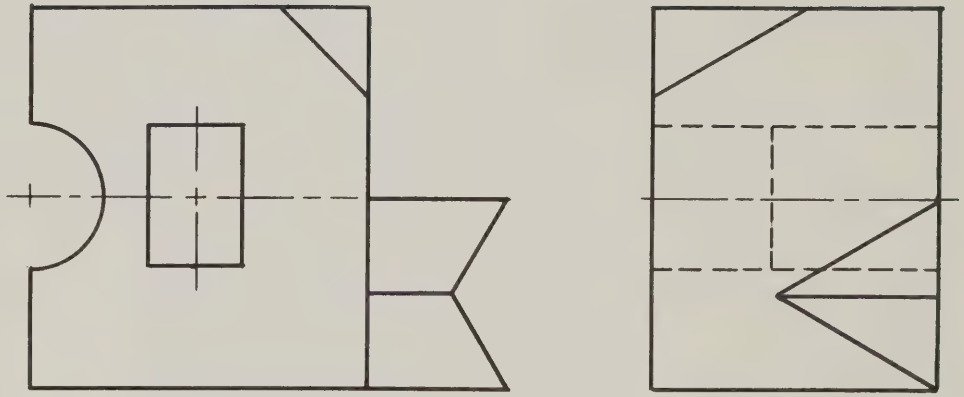
Add top and left side views.



FILE		DR. BY.	DATE	25A

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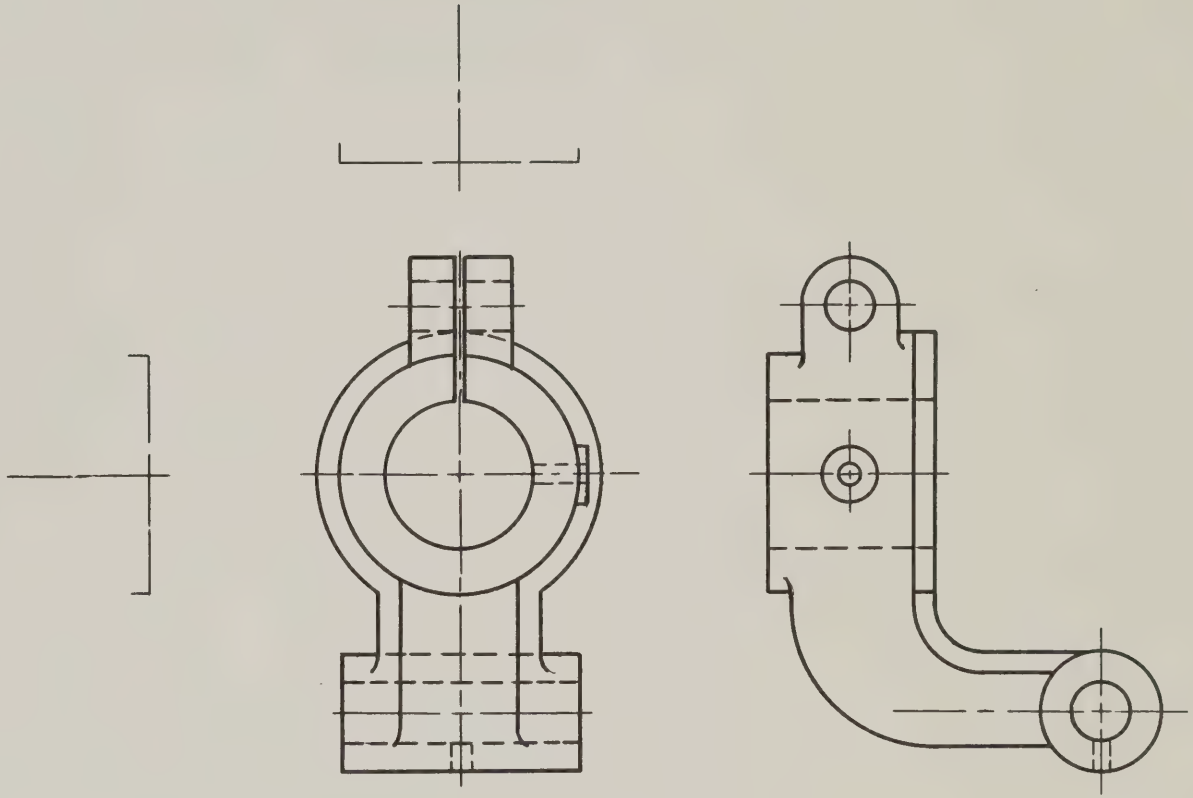
Add top and left side views.



FILE		DR. BY.	DATE	26A

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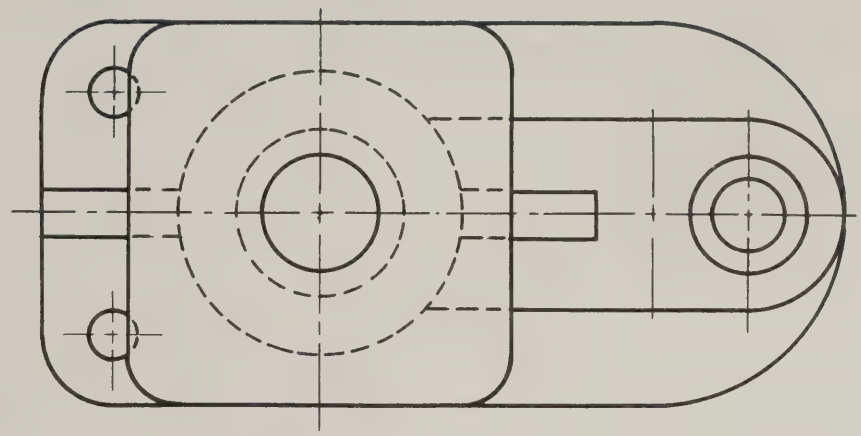
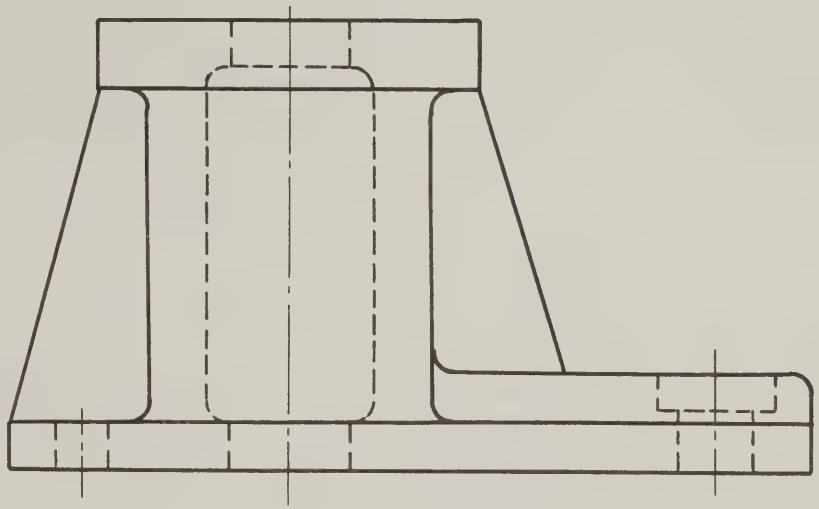
Add side view.





FILE		DR.BY.	DATE	27A

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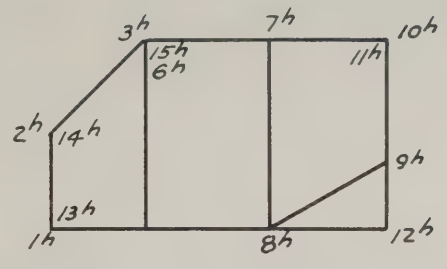

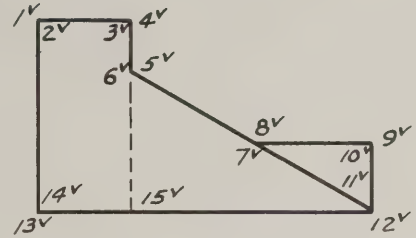

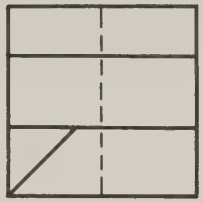

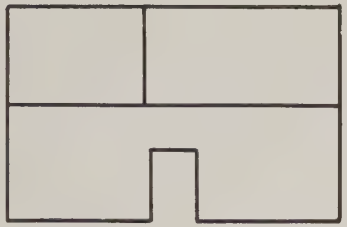

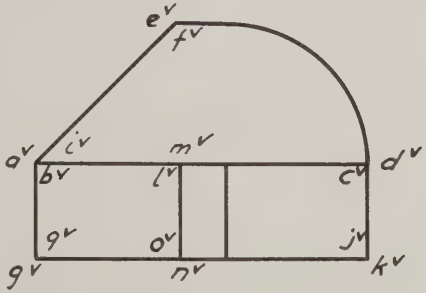

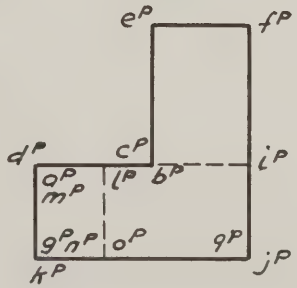

LINE	PLANES	PLANE	PLANE
1 - 2	top & side	1-2-14-13	
1 -13		8-7-9-10	
2 -3		3-4 -5- 6	
4 -5		9 -10-11-12	
5-6		6-7-10-11-15	
9 -10		8 -9-12	
8 -9		5-6-7-8	
9 -12		1-4-5-12-13	
8 -12		2 -3 -15 -14	
5 - 12			
6 - 7			

1. Mark the projections of the points on the blank views. 2. Name the views which show the true lengths of the lines and also the true shapes of the planes as listed in the tables.

LINE	PLANES	PLANE	PLANE
a-b		a-m-n-g	
a-m		a-b-c-d	
a-g		b-e-c	
b-c		a-i-q-g	
e-c		b-e-f-i	
f-j			
k-j			

FILE		DR. BY.	DATE	28 A

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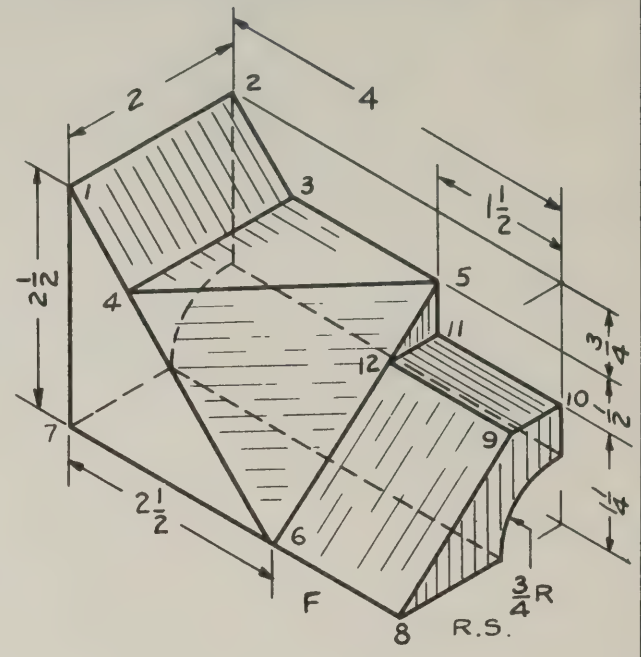
Draw front, top, and right side views

Mark the projections of the given points.



F

Scale 12"=1'-0"

FILE		DR. BY.	DATE	29A

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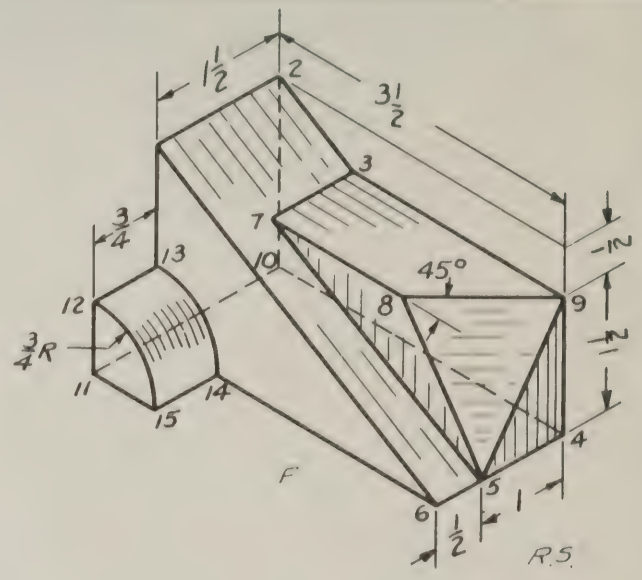
Drow front, top, and right side views.

Mark the projections of the given points.



F R.S

Scale 12"=1'-0"

FILE		DR.BY.	DATE	30A

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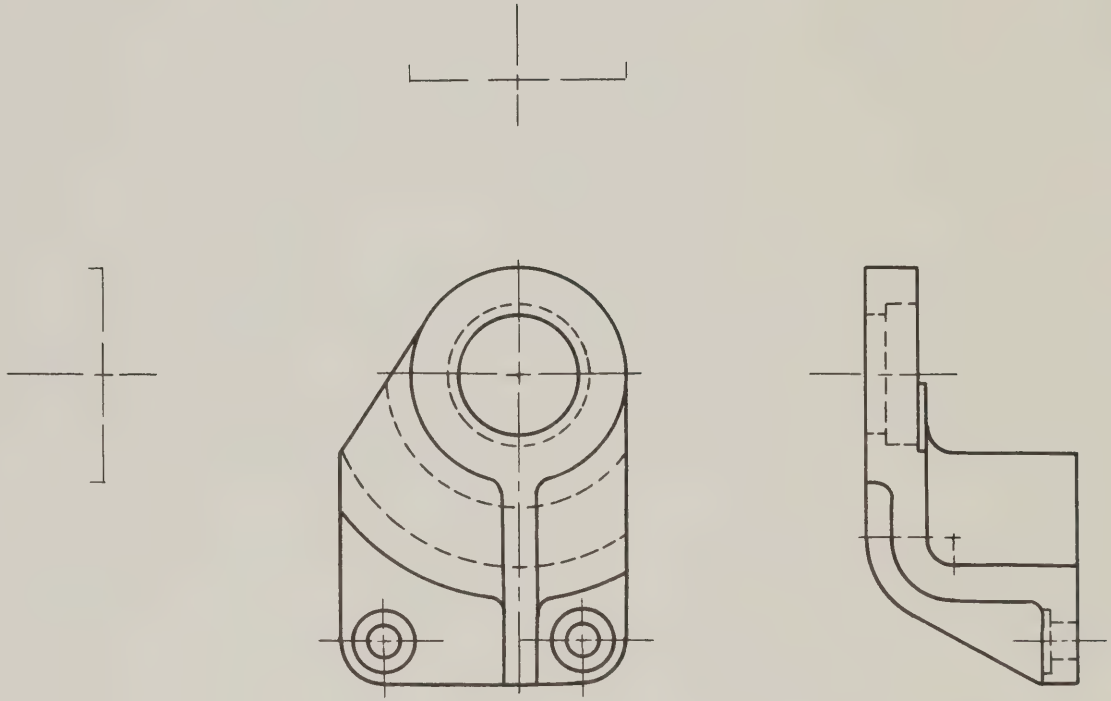
Add top and left side views.



F

R.S.

FILE		DR.BY.	DATE	31A

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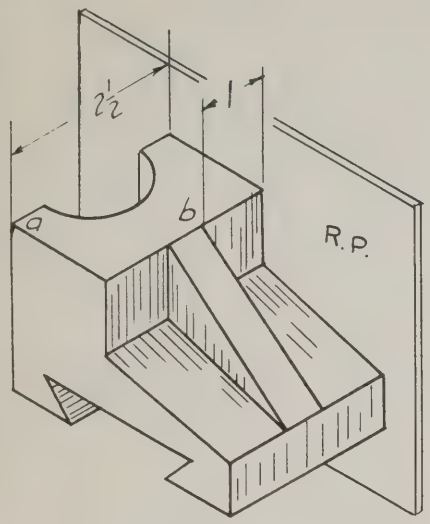
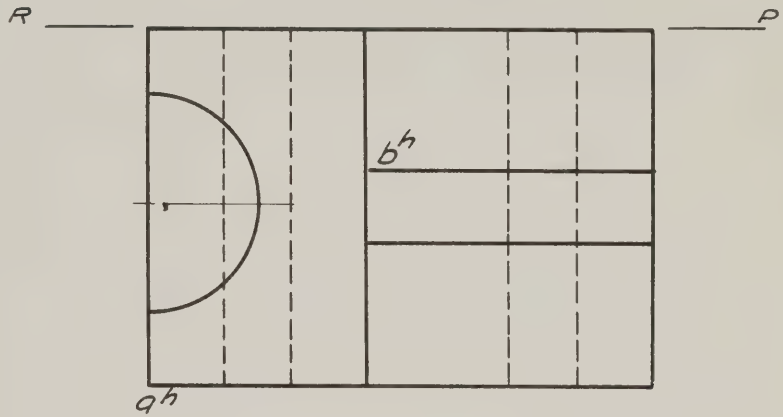
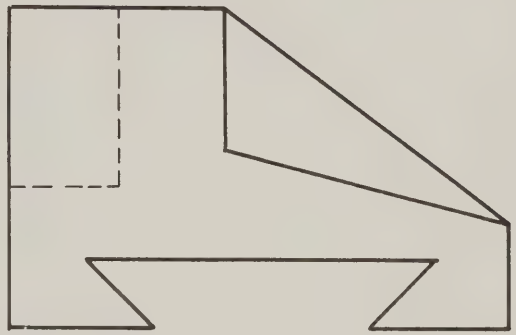


Add right and left side views by locating all the points from R.P. plane. Give the dimensions for points a and b on top and side views.





FILE		DR.BY.	DATE	32A

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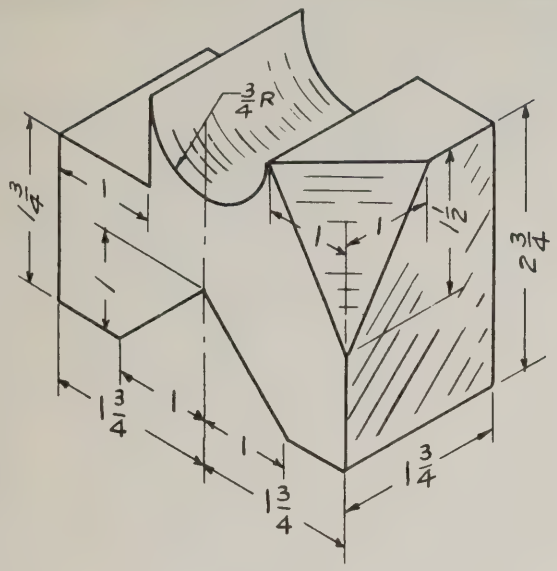
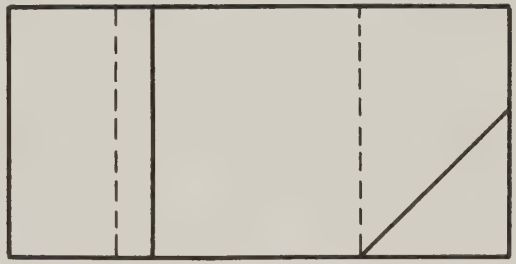
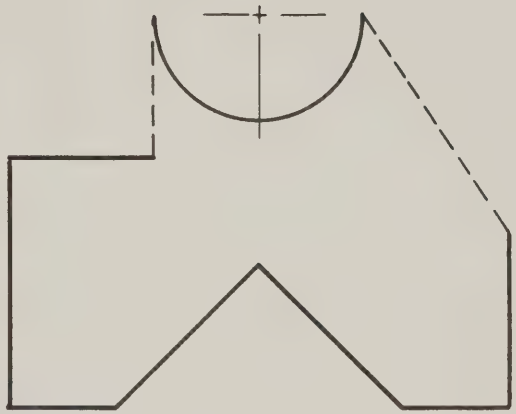
Correct and complete the given views.







Scale 9"=1'-0"

FILE		DR.BY.	DATE	33A

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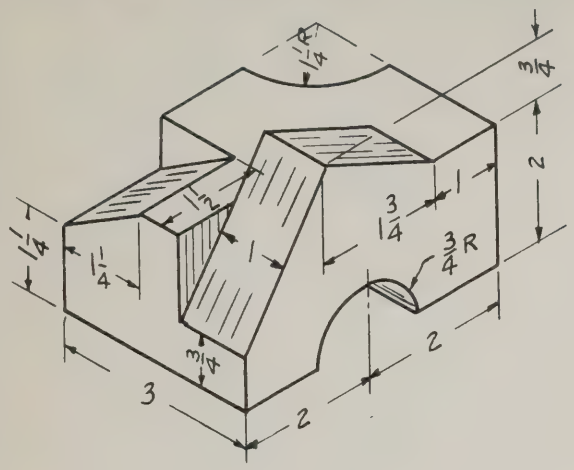
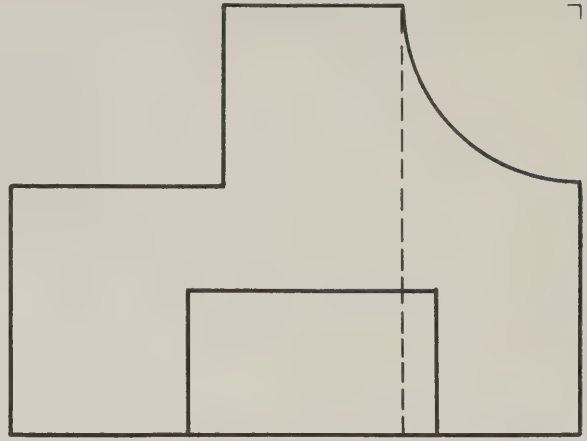
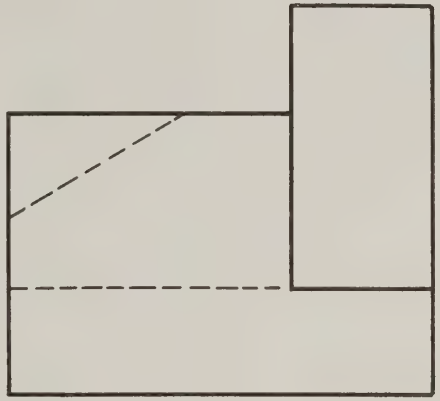
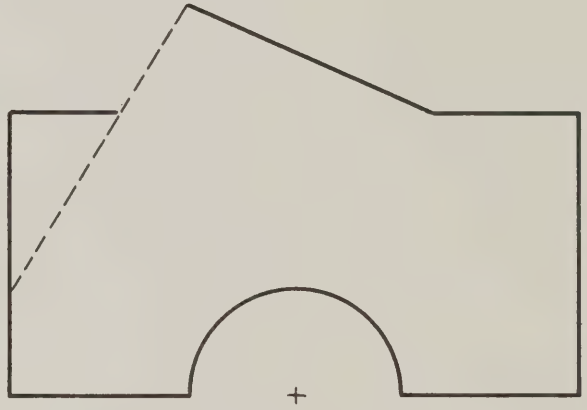
Correct and complete the given views.









Scale 9" = 1'-0"

FILE		DR.BY.	DATE	34A

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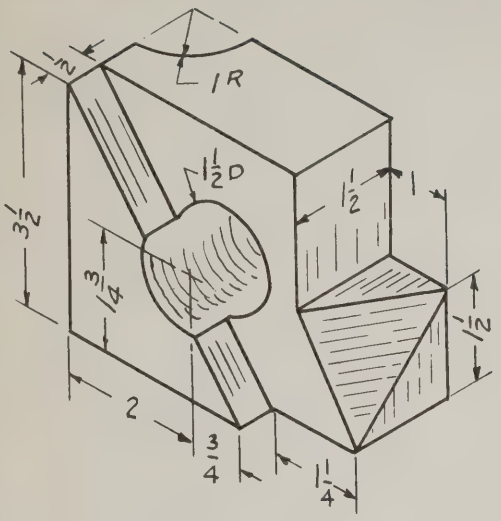
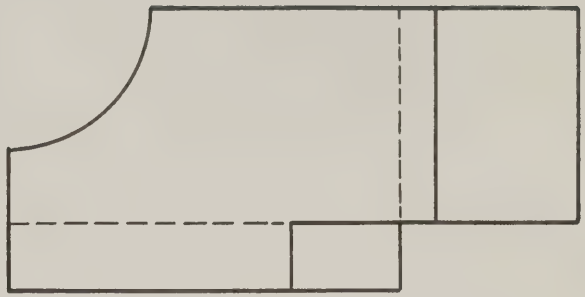
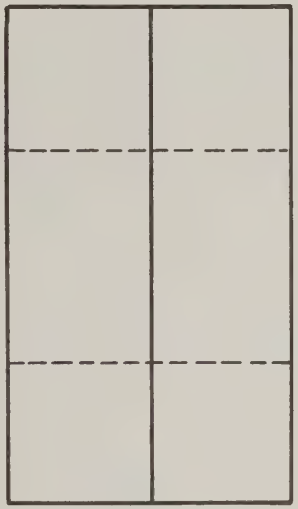
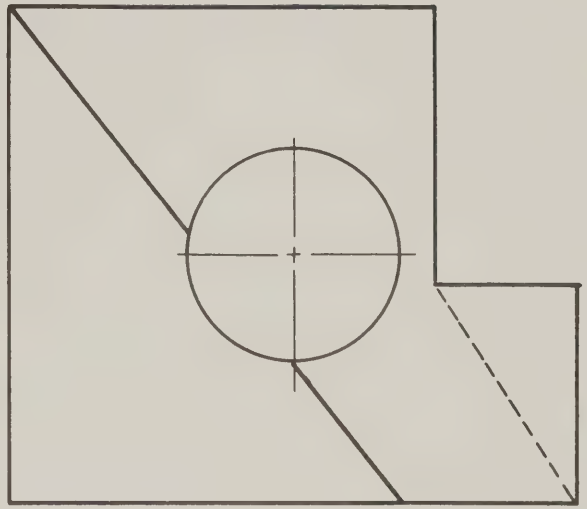
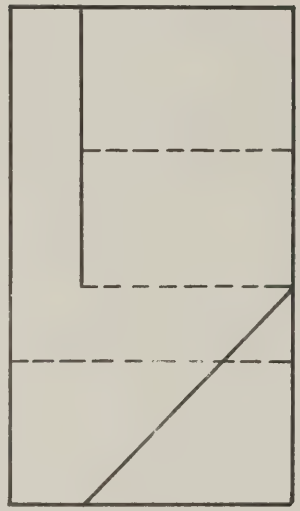
Correct and complete the given views.











Scale 9" = 1'-0"

FILE		DR.BY.	DATE	35 A

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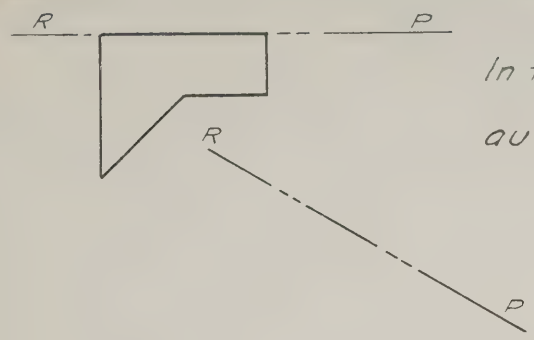
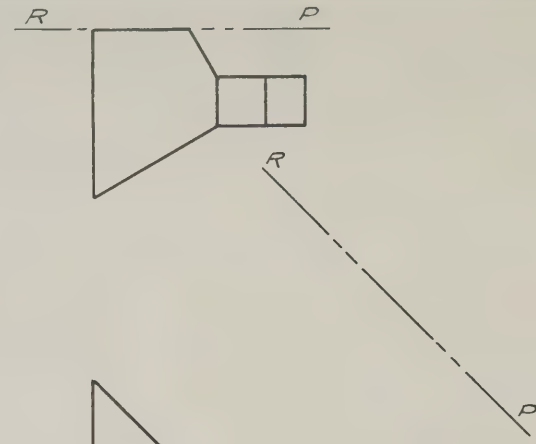
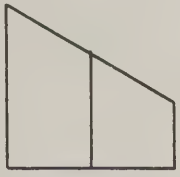
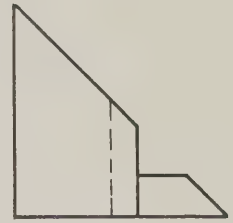
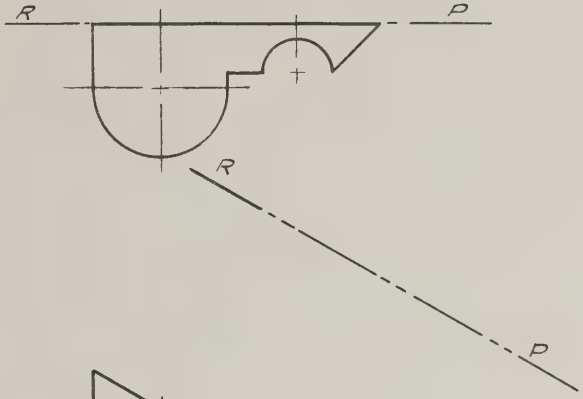


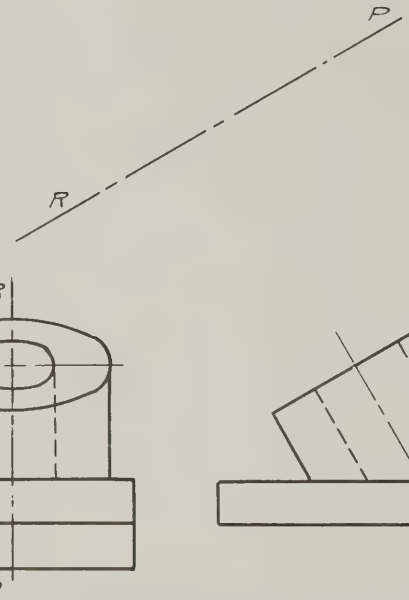
In freehand, draw the auxiliary views.

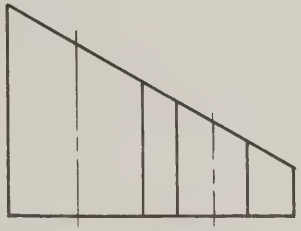


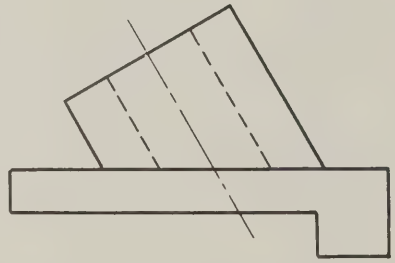












FILE		DR.BY.	DATE	36A

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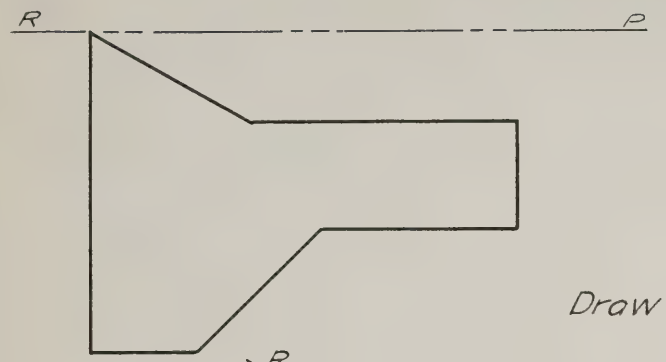
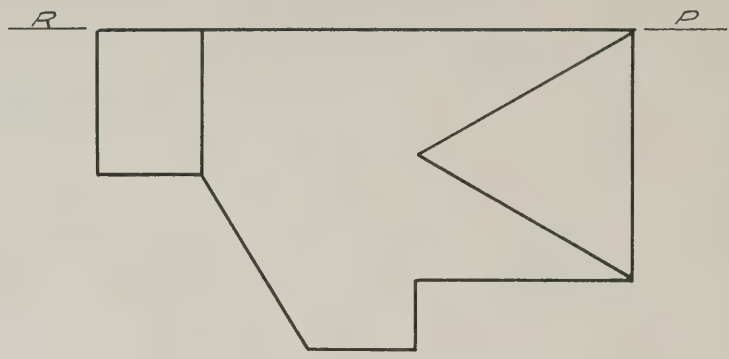
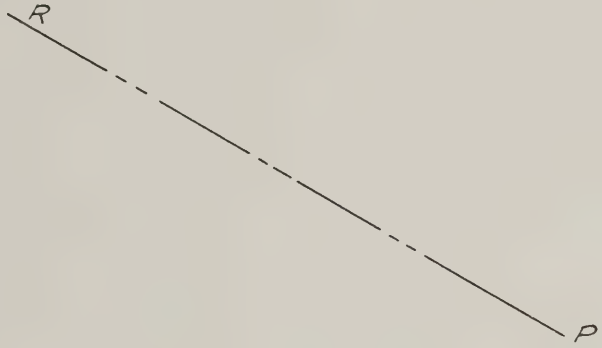
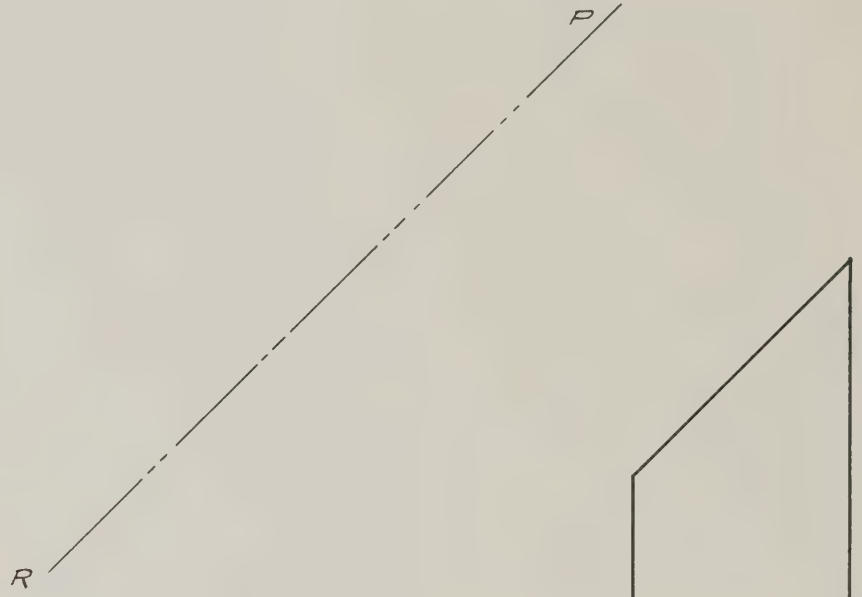
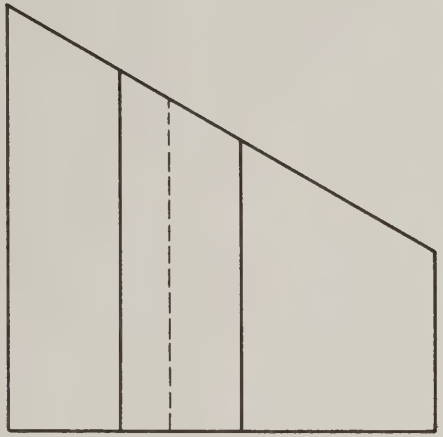


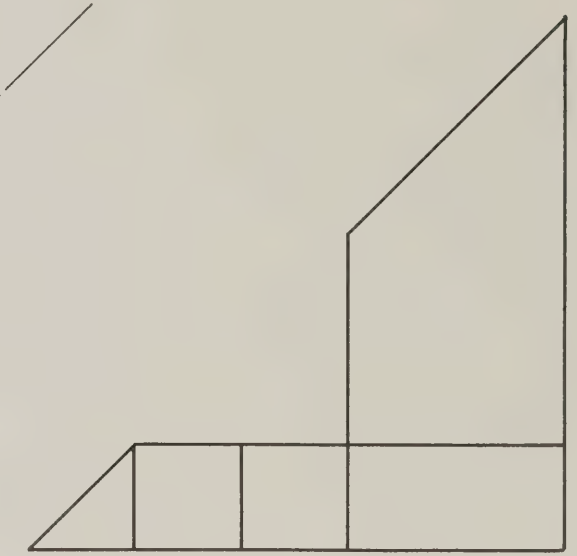


Draw auxiliary views.









FILE		DR. BY.	DATE	37A

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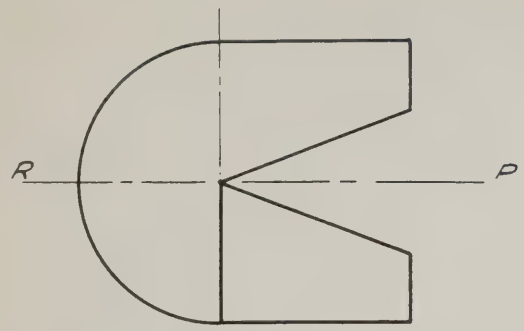
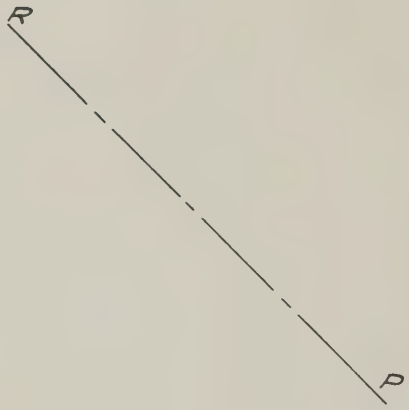
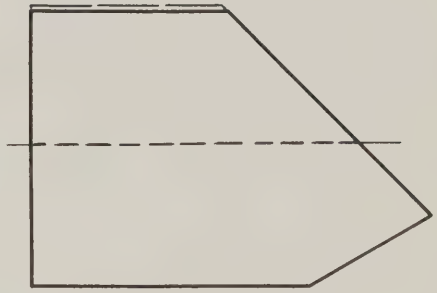
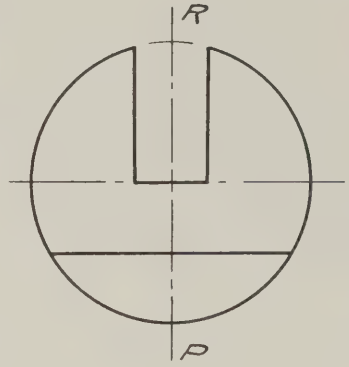
Draw auxiliary views.









From Engineering Drawing

FILE		DR. BY.	DATE	3 8A

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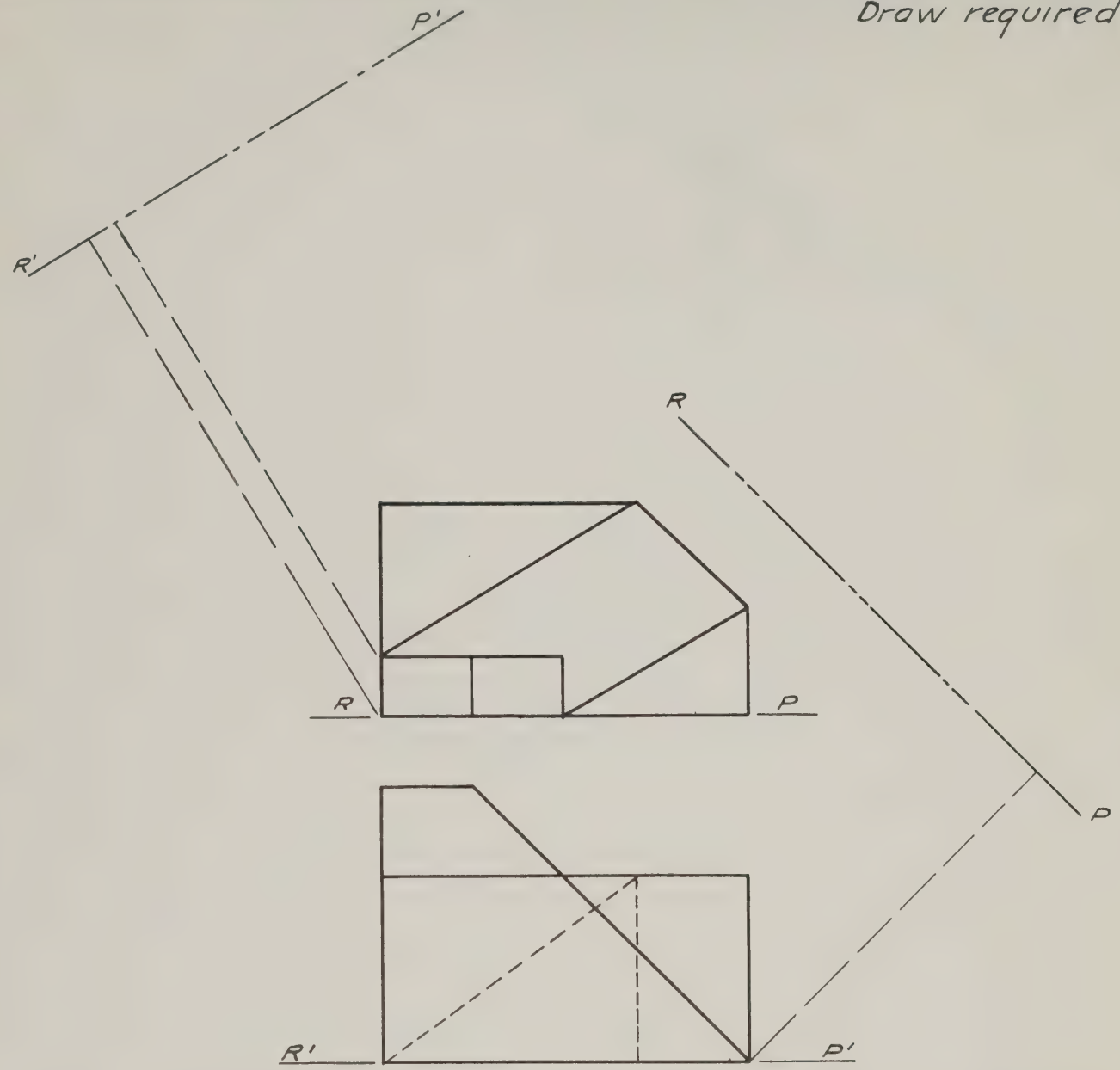
Draw required auxiliary views.



FILE		DR.BY.	DATE	39A

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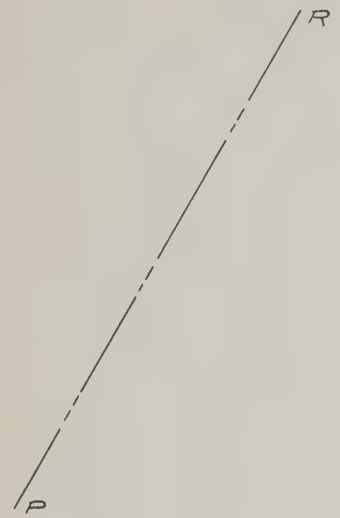
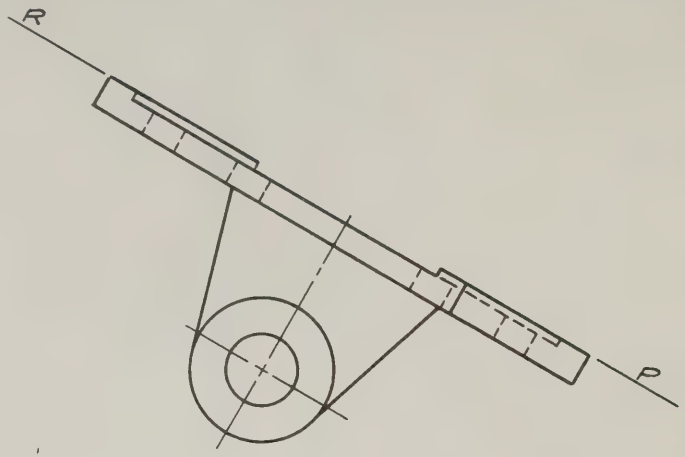
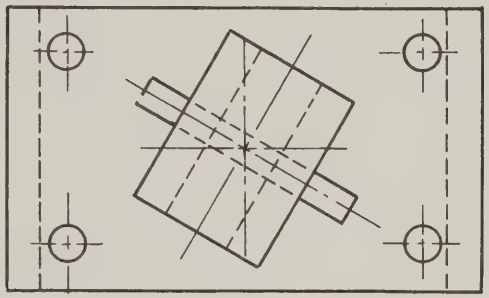
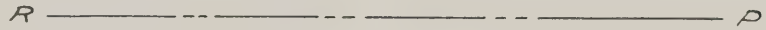
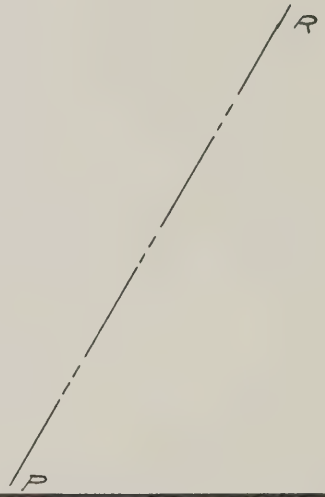
Draw front and two auxiliary views.











FILE		DR.BY.	DATE	40A

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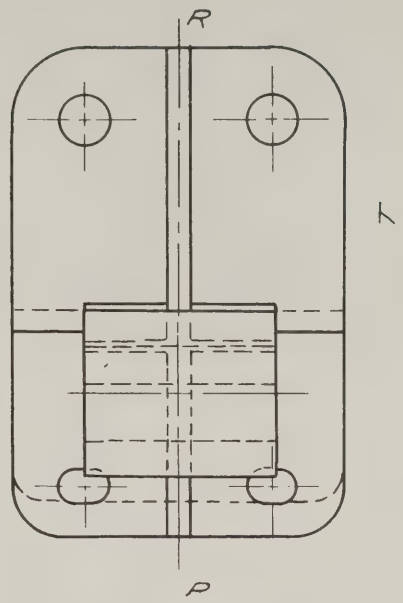
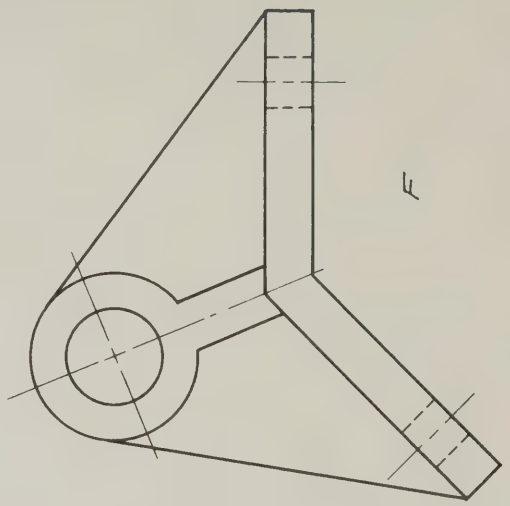
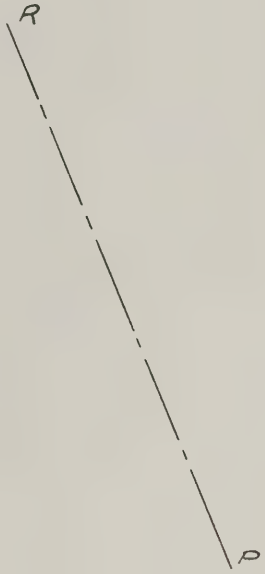
Draw side and auxiliary views.

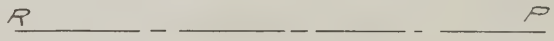


T



F





S

FILE		DR.BY.	DATE	41A

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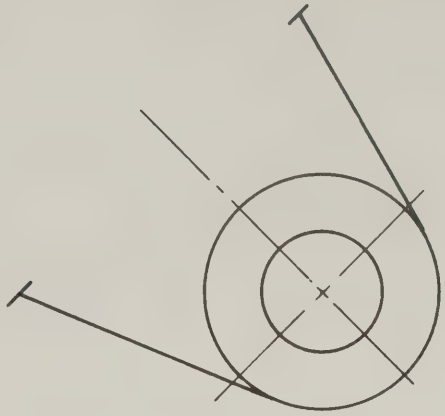
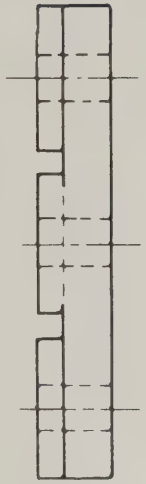
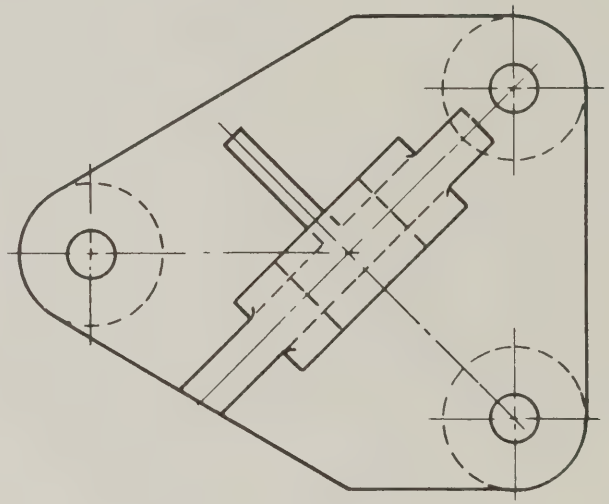
Complete side and auxiliary views.







FILE		DR. BY.	DATE	42A

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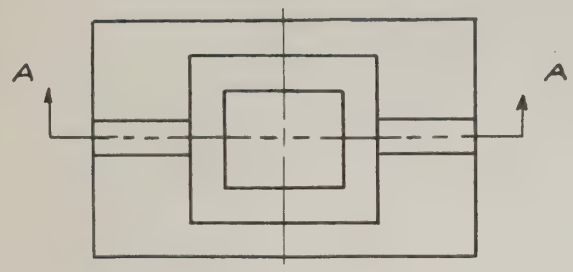
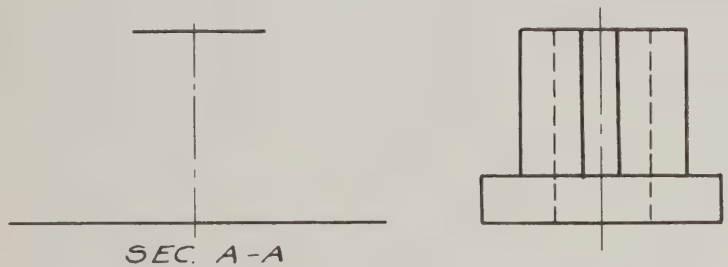
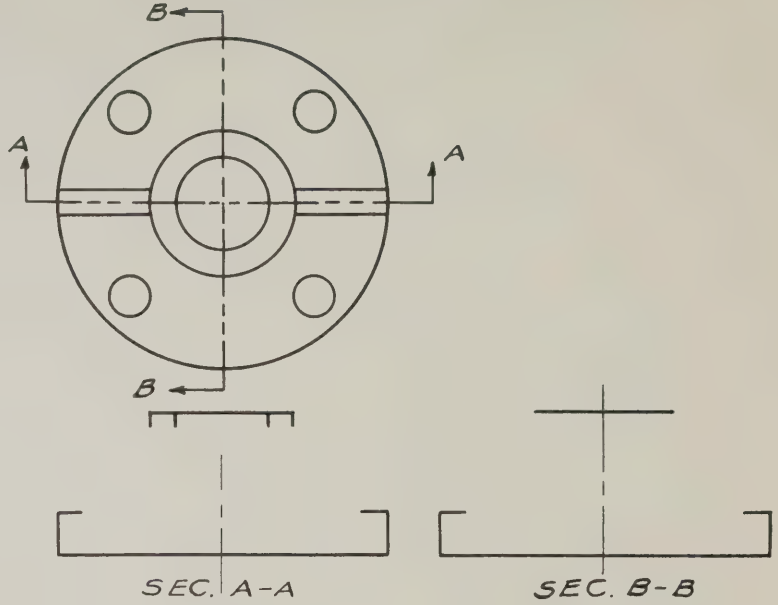
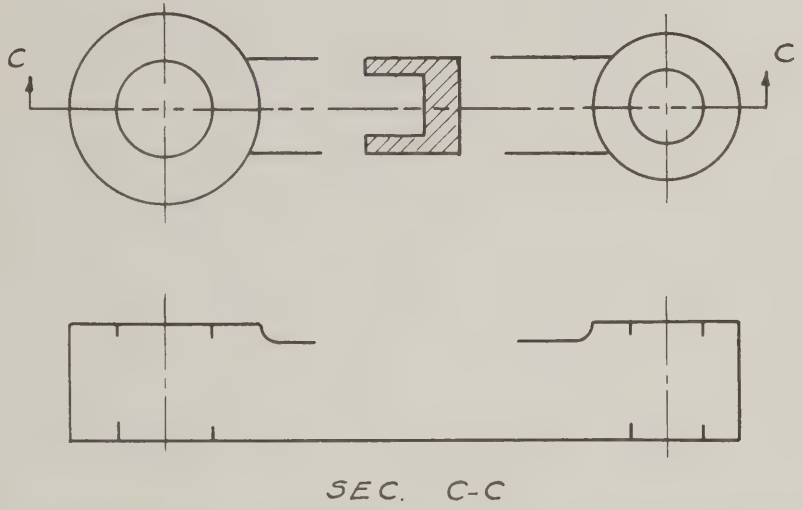
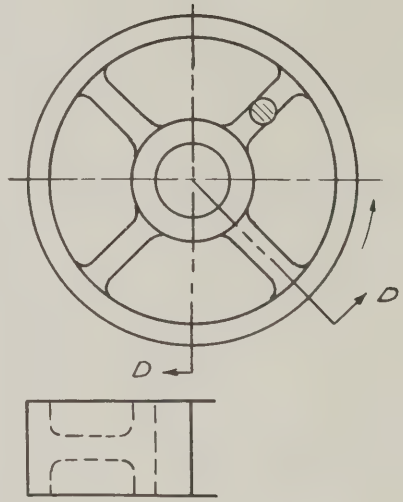
Draw required sectional views.











FILE		DR.BY.	DATE	43A

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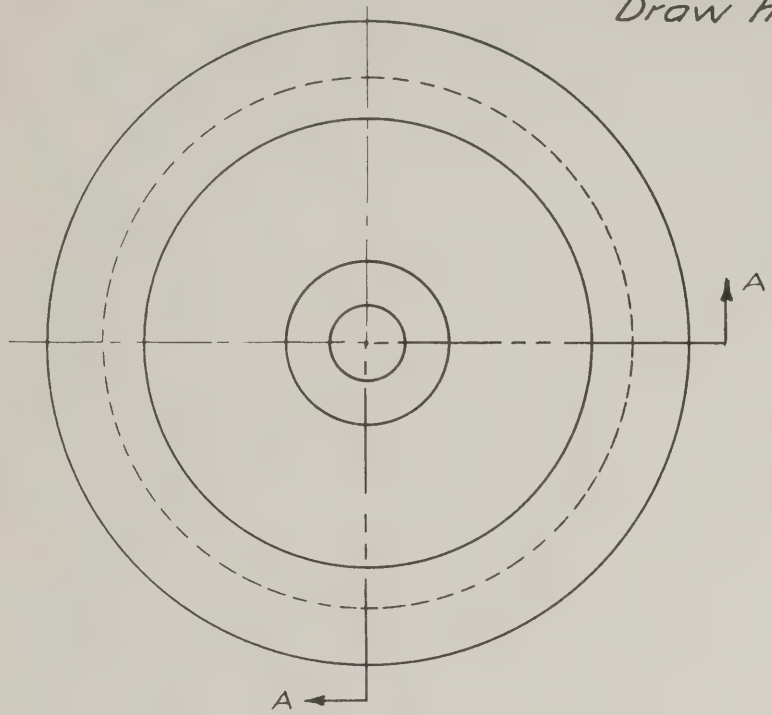
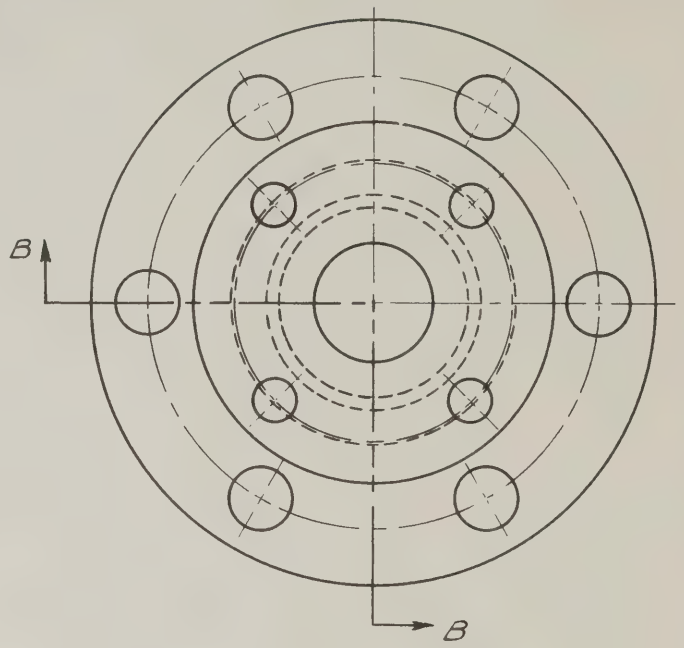
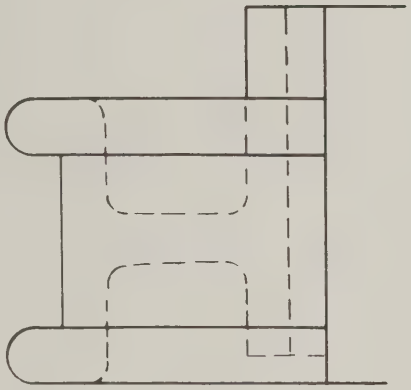
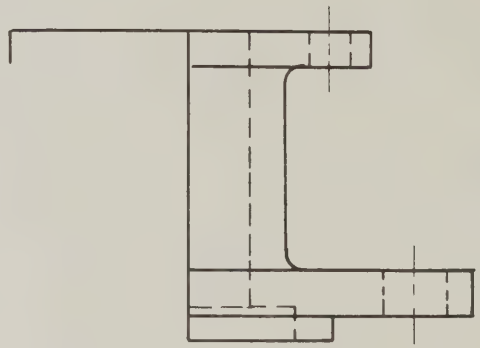
Draw half sections.









FILE		DR. BY.	DATE	44A

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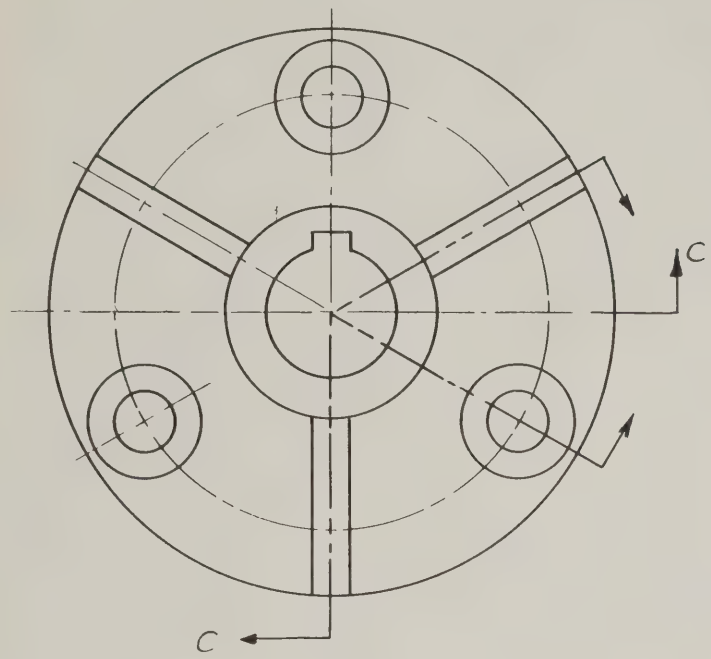
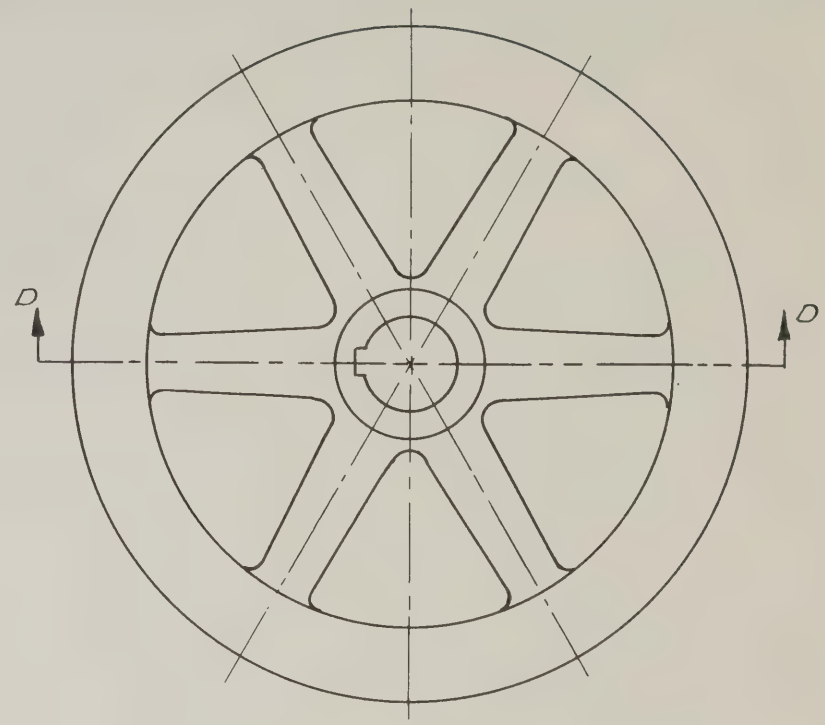
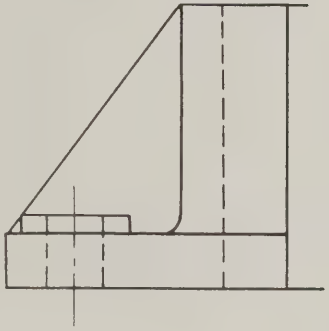
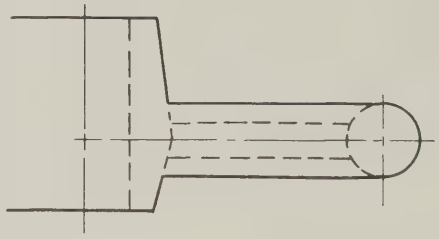
Add sectional views.









FILE		DR. BY.	DATE	45 A

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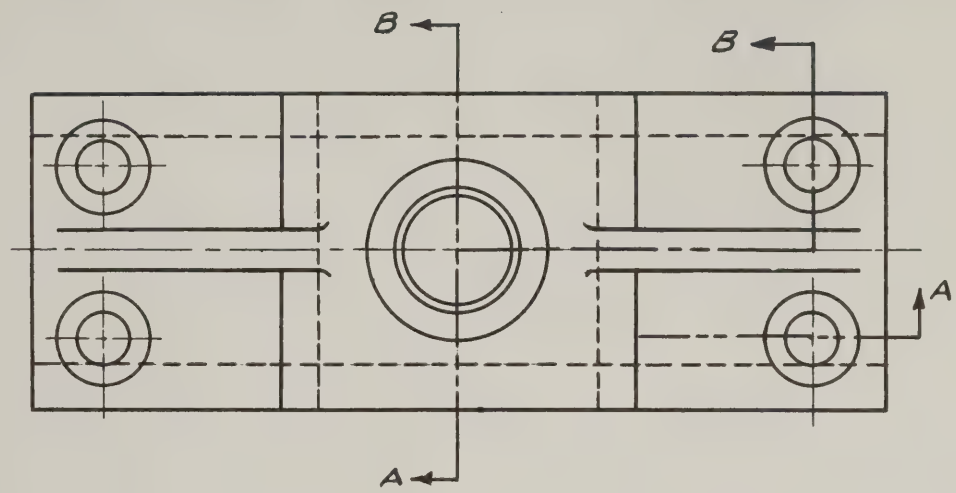
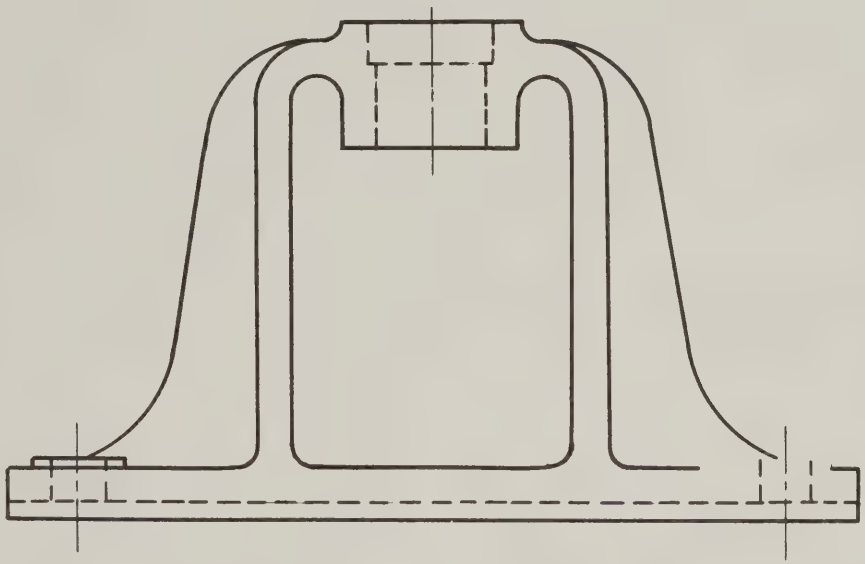
Drow and complete front and side views with sections A-A&B-B





SEC. A -A

SEC. B-B

FILE		DR.BY.	DATE	46A

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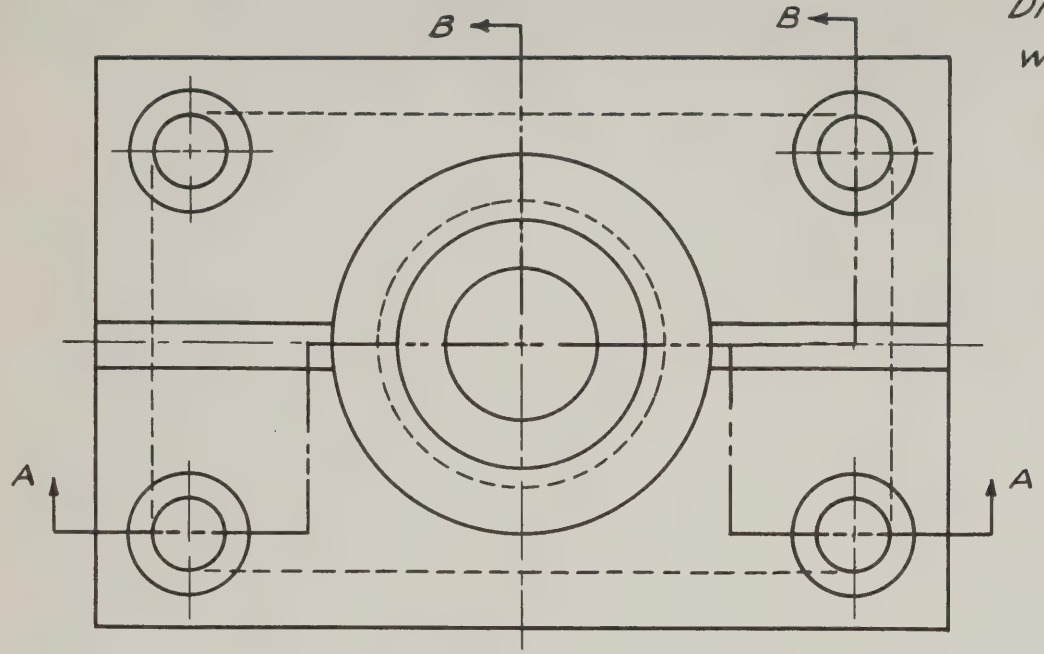
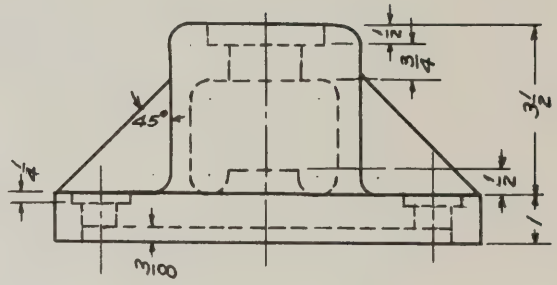
Draw full section A-A and side view with half section B-B.





Scale 6"=1'-0"

FILE		DR. BY.	DATE	47A

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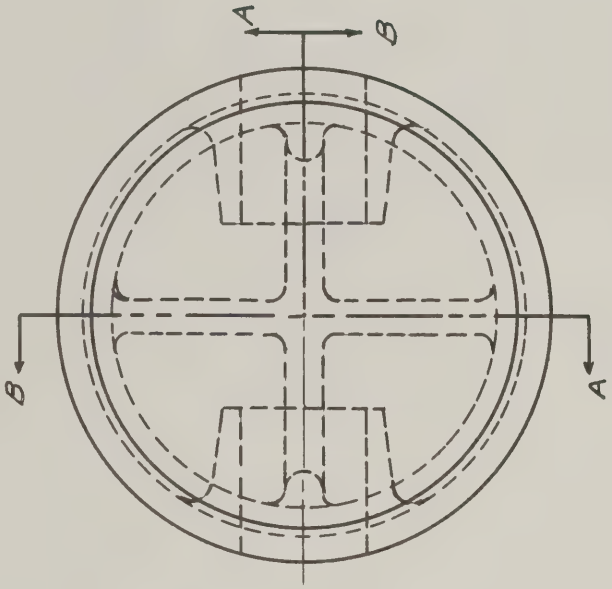
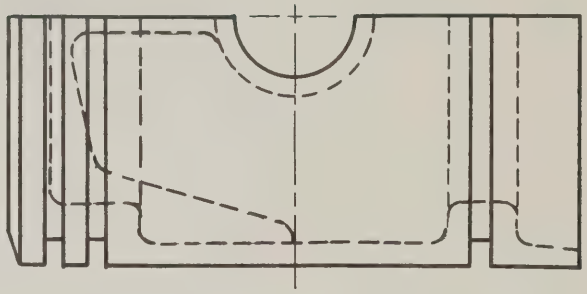
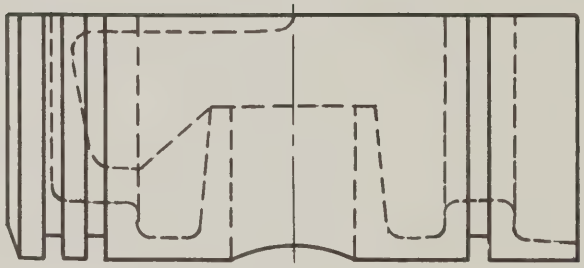
Complete views by adding sections A-A and B-B.



SEC B-B.



SEC. A-A.



FILE		DR.BY.	DATE	48 A

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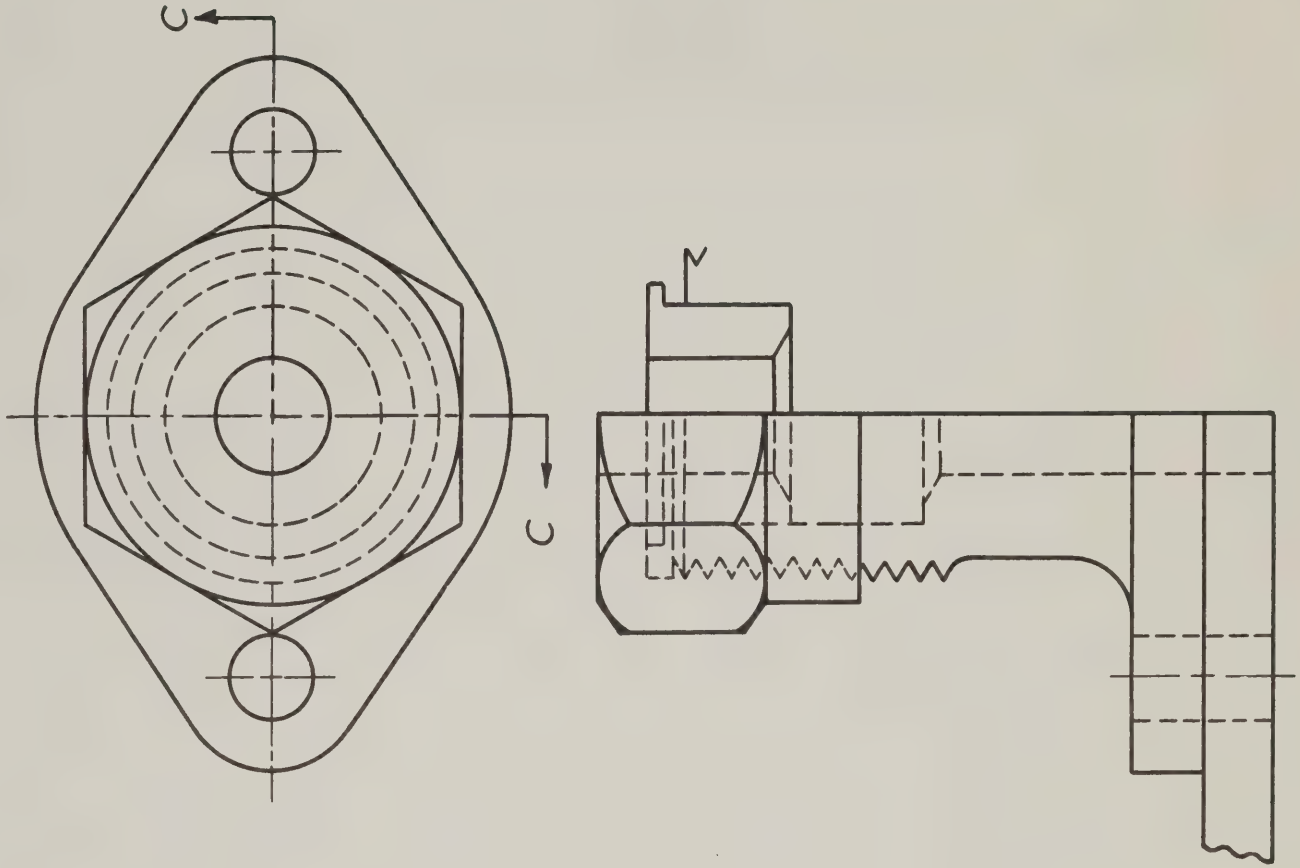
Add section C-C.



FILE		DR.BY.	DATE	49A

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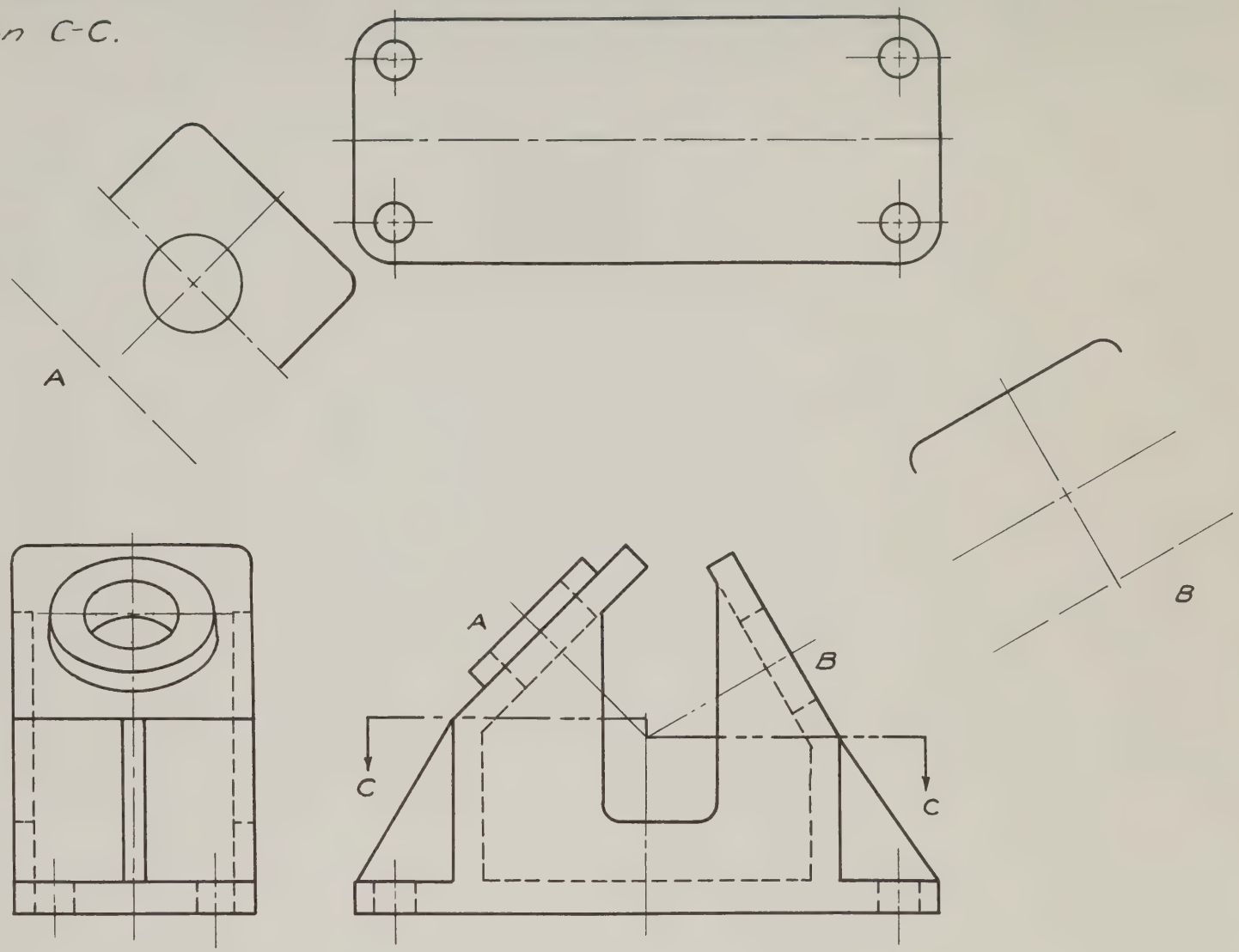
Complete views A, B,
and section C-C.



FILE		DR.BY.	DATE	50A

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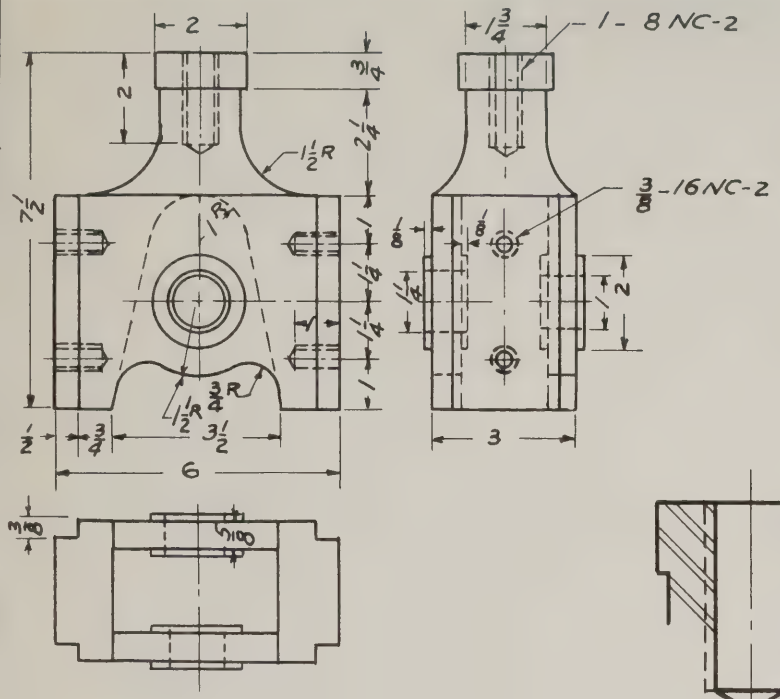

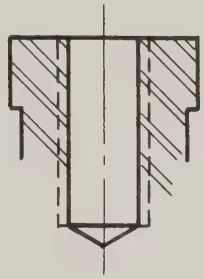

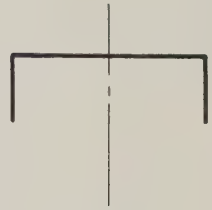

Draw both views in full section. Use cross section lines for steel.

Scale 6"=1'-0"

FILE		DR. BY.	DATE	51A

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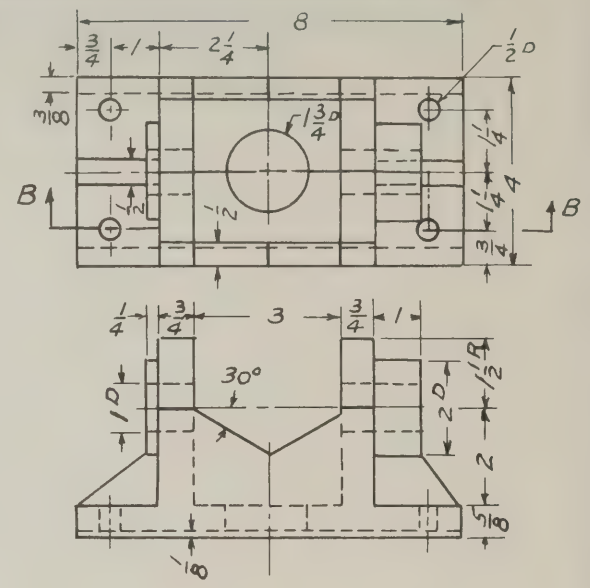
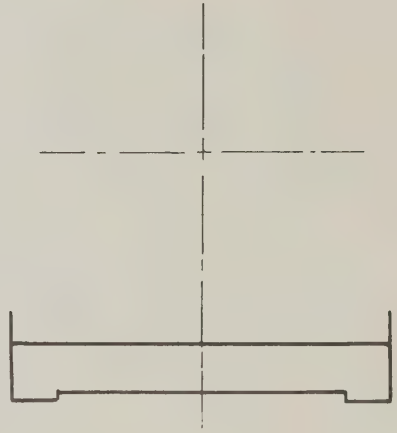
Draw top, section B-B, and side.





Scale 6"=1'-0"

FILE		DR.BY.	DATE	52A

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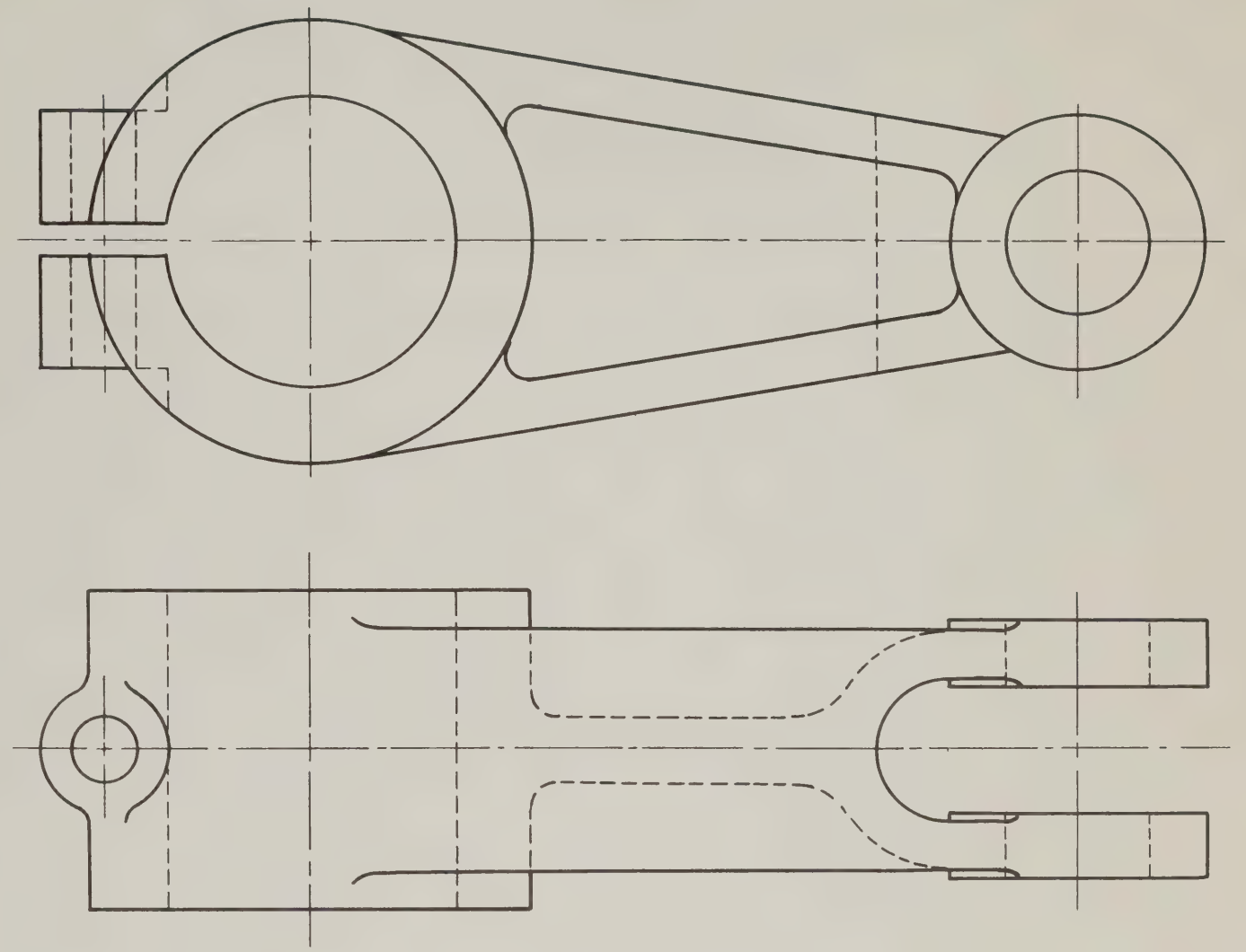
Give necessary dimensions.



Scale 9"=1'-0"

FILE		DR.BY.	DATE	53 A

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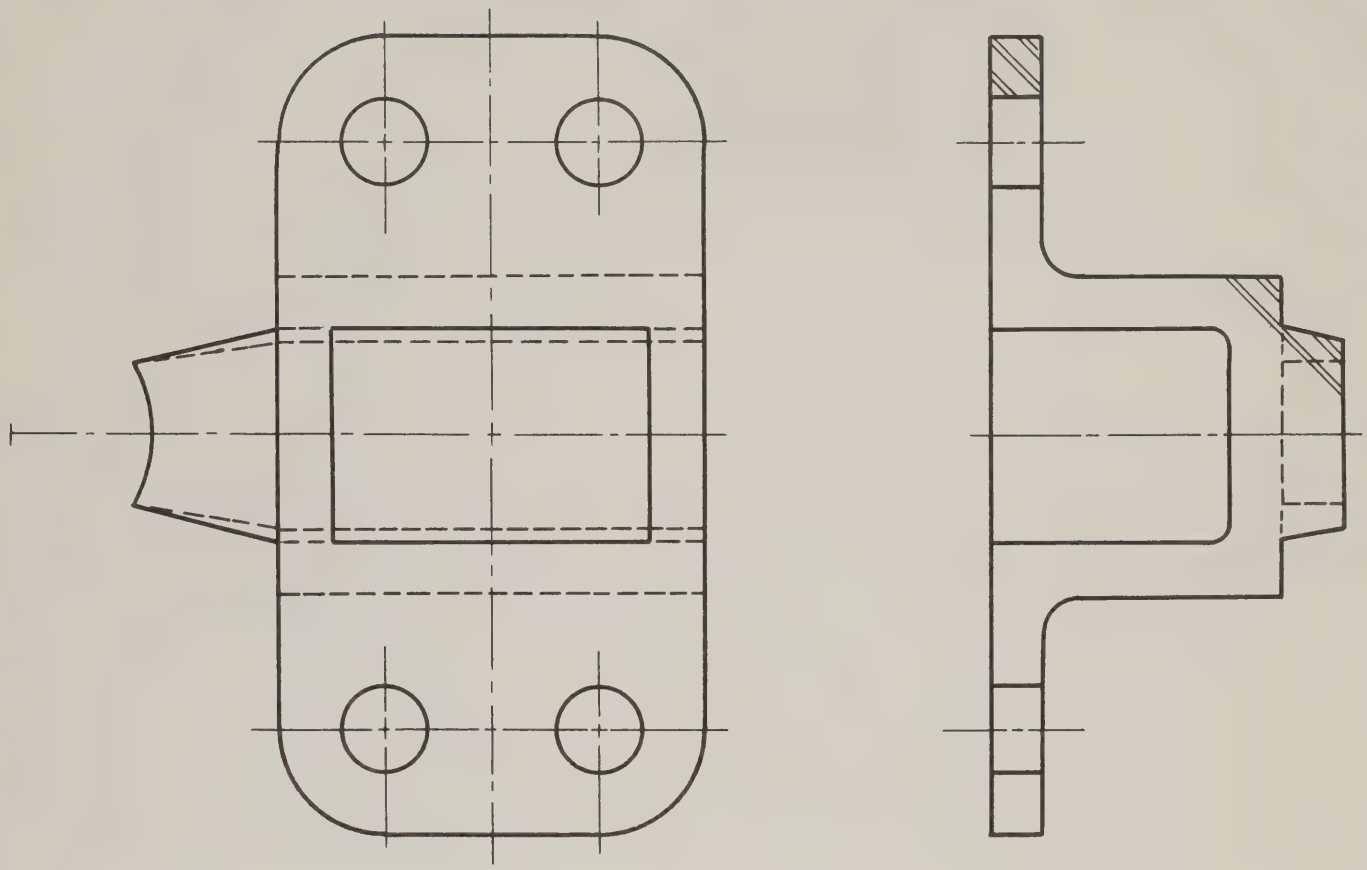
Complete with required dimensions.



Cast Steel

Scale 9"= 1'-0"

FILE		DR.BY.	DATE	54A

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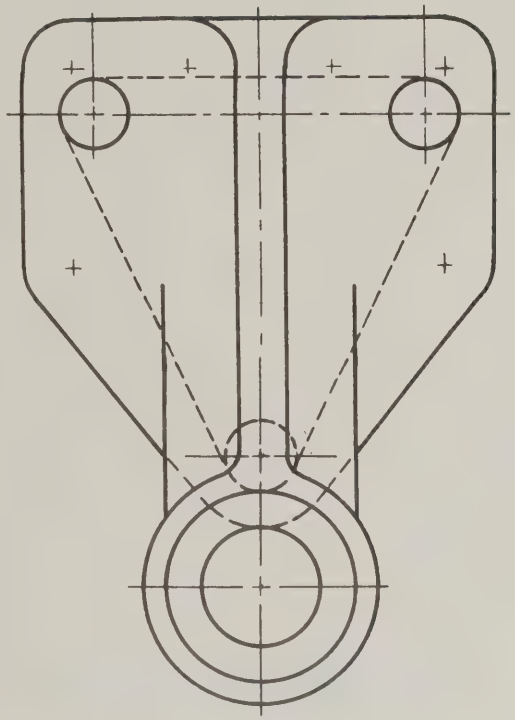
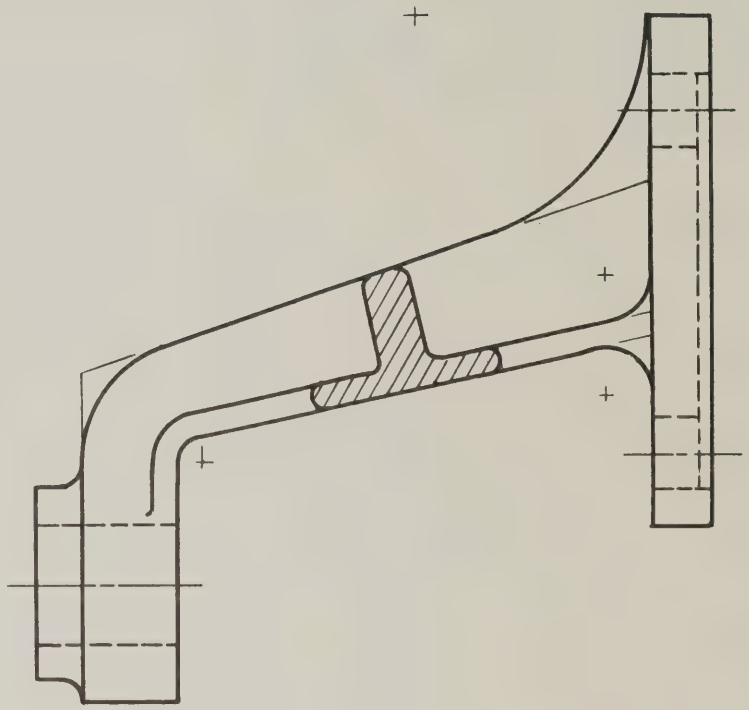
Dimension completely.





Scale 12"=1'-0"

FILE		DR.BY.	DATE	55 A

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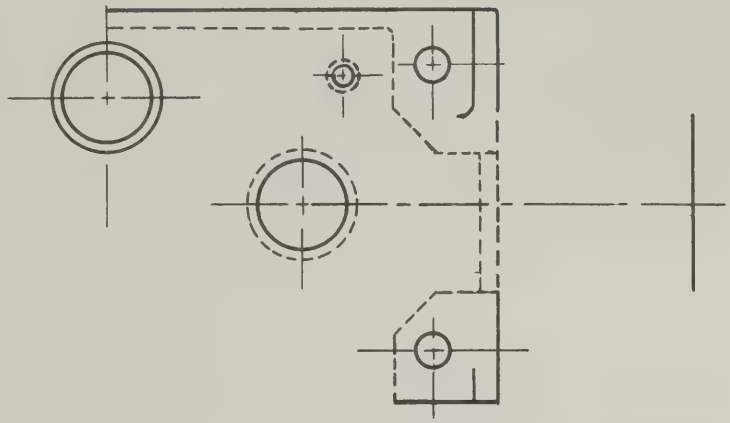
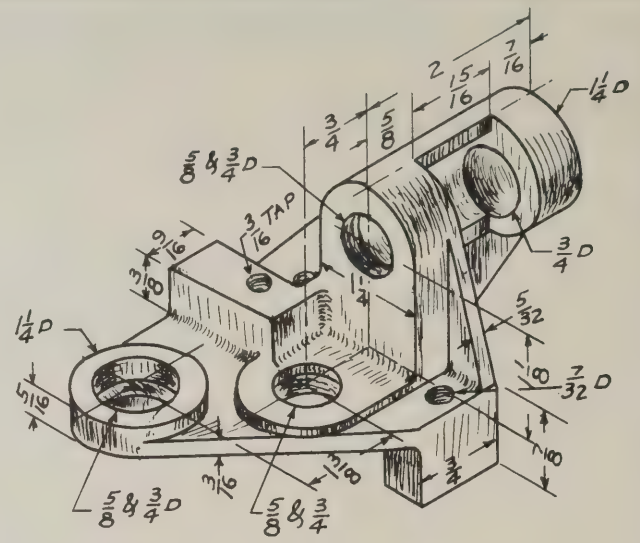
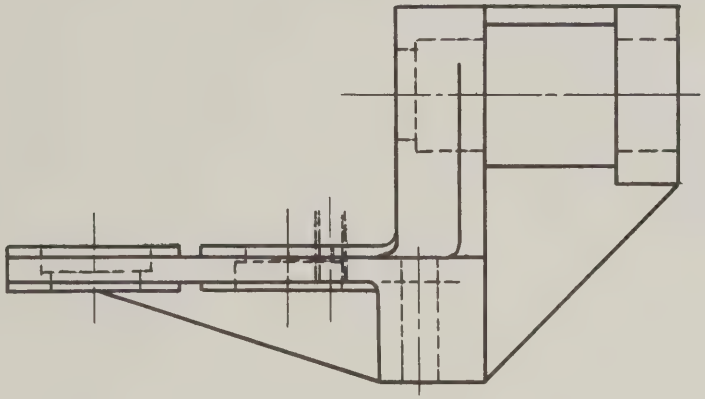
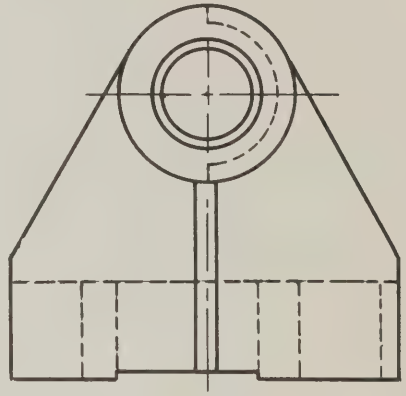




Complete the views from the isometric and dimension.





Scale 9"=1'-0"

FILE		DR.BY.	DATE	56 A

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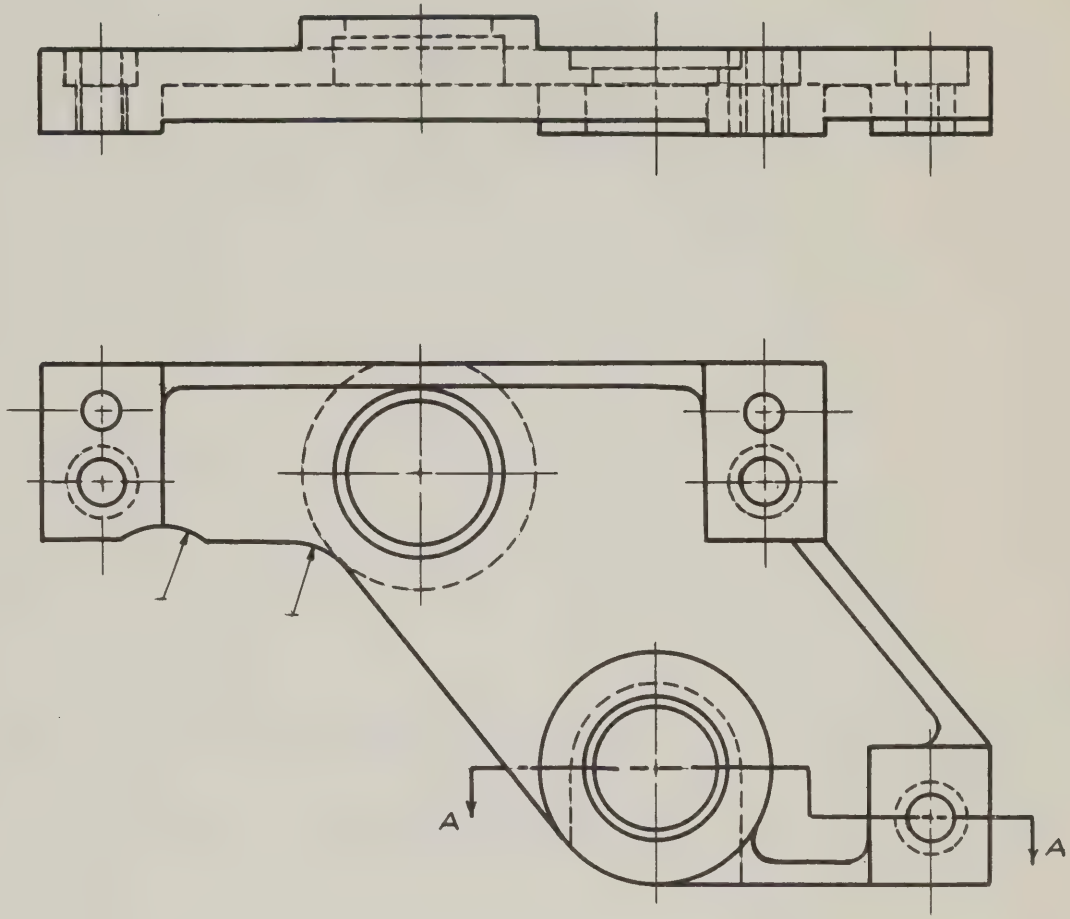
Give necessary dimensions and show sec. A-A.



Scale 12"=1'-0"

FILE		DR. BY.	DATE	57A

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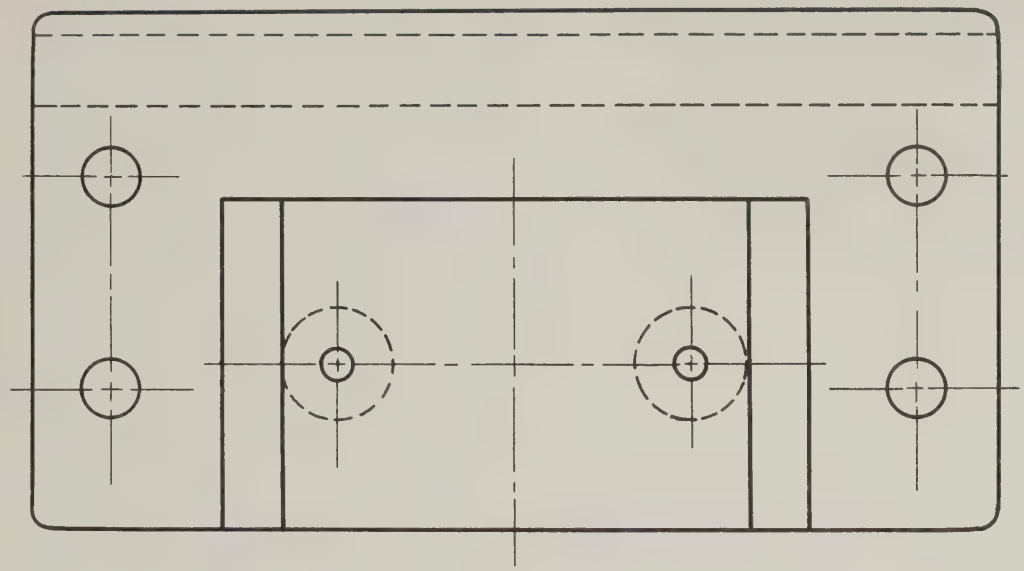
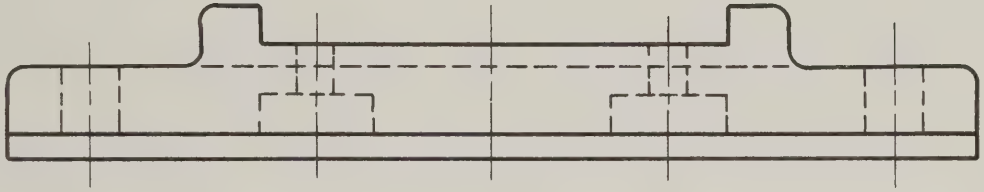
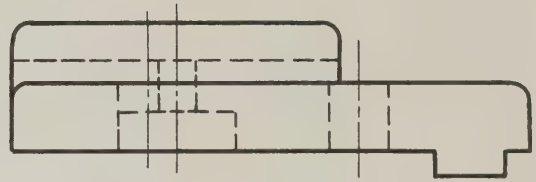
Give the necessary dimensions and trace on paper.







Scale 3" = 1'-0"

FILE		DR.BY.	DATE	58A

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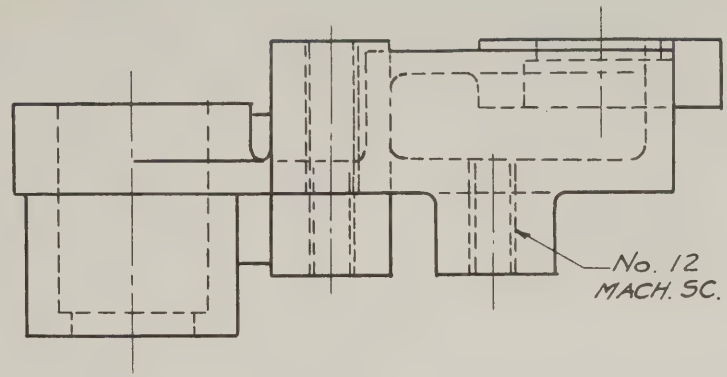
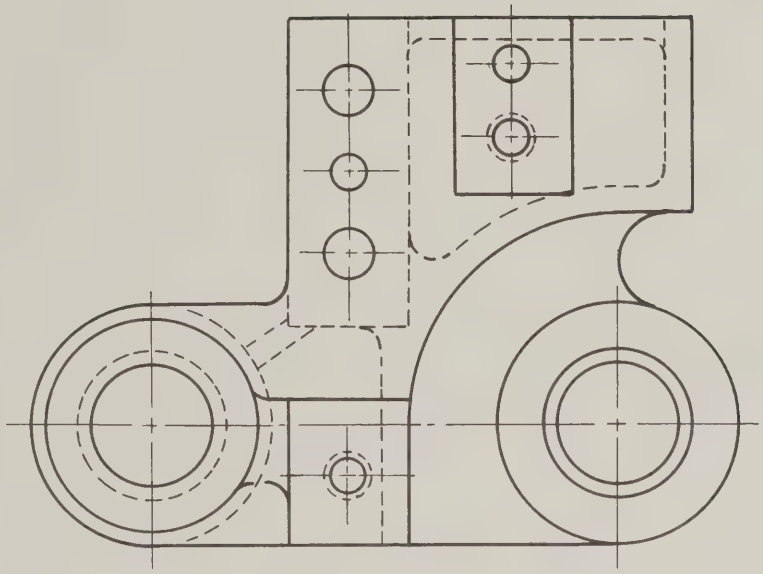
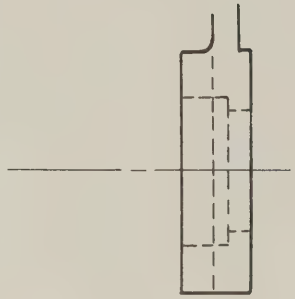
Complete the side view and dimension properly.







Scale 12"=1'-0"

FILE		DR.BY.	DATE	59A

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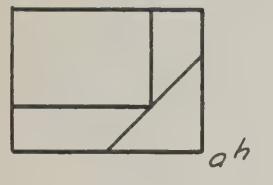
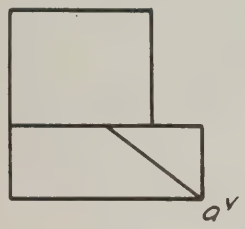
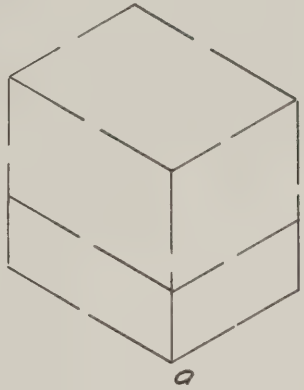
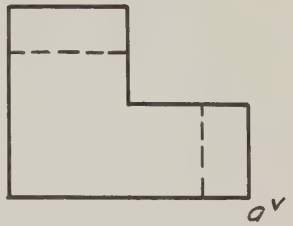
Inside dash lines complete the isometric drawings in freehand.

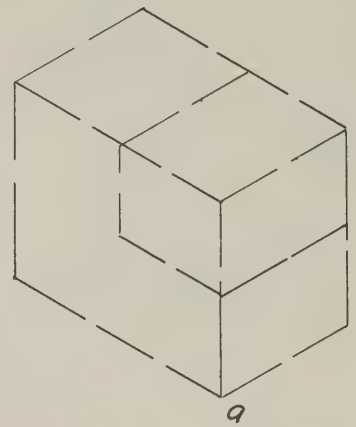


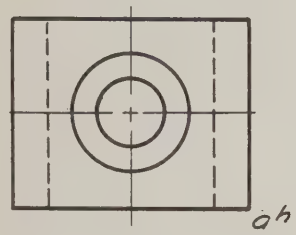


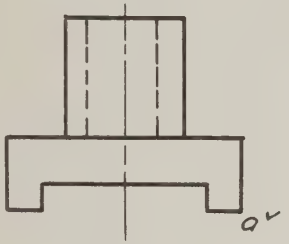


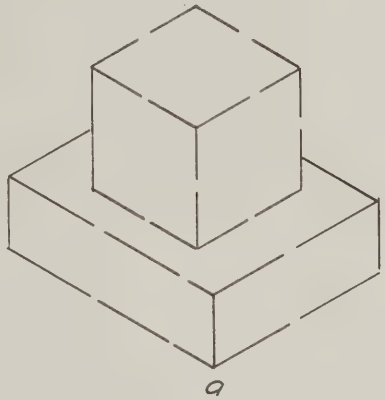
Semi-circle

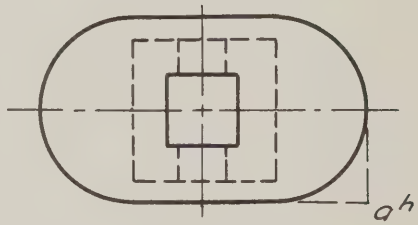


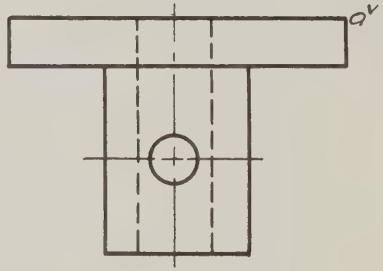


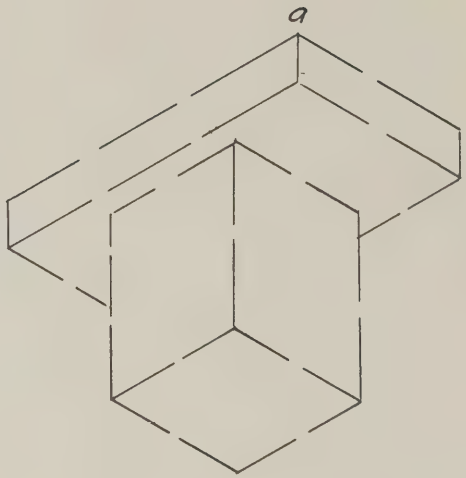












FILE		DR.BY.	DATE	60A

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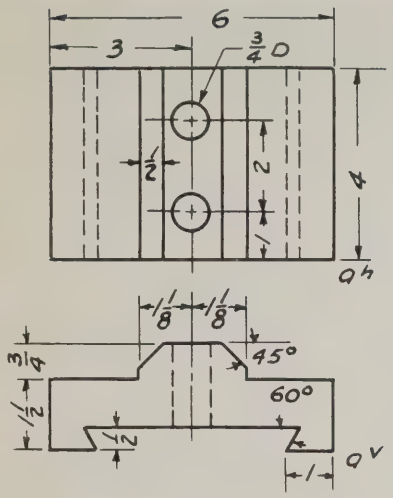
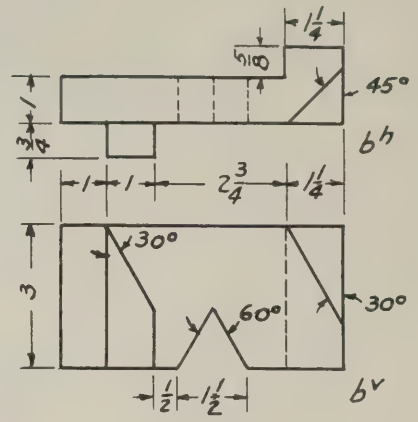
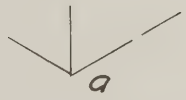
Make isometric drawings.







Scale 6" = 1'-0"

FILE		DR.BY.	DATE	61A

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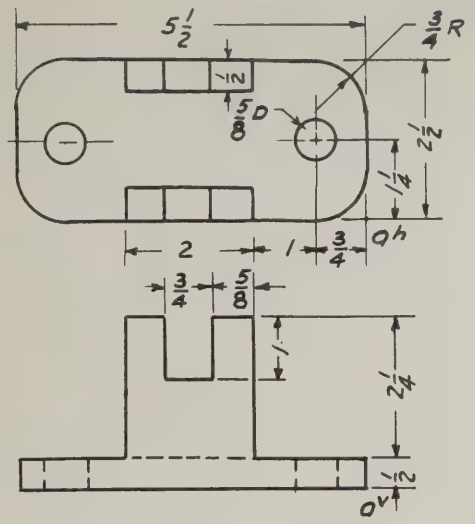
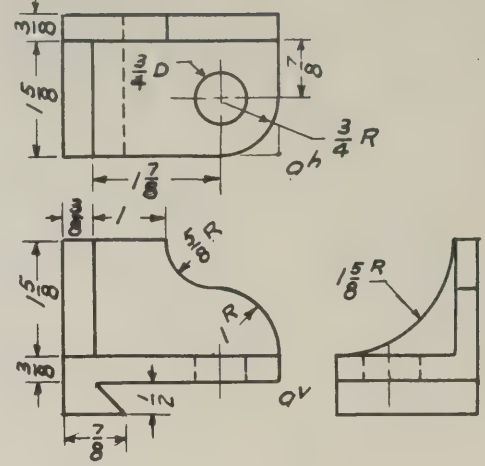
Make isometric drawings.





Scale 6"=1'-0"

Scale 9"=1'-0"

FILE		DR. BY.	DATE	62A

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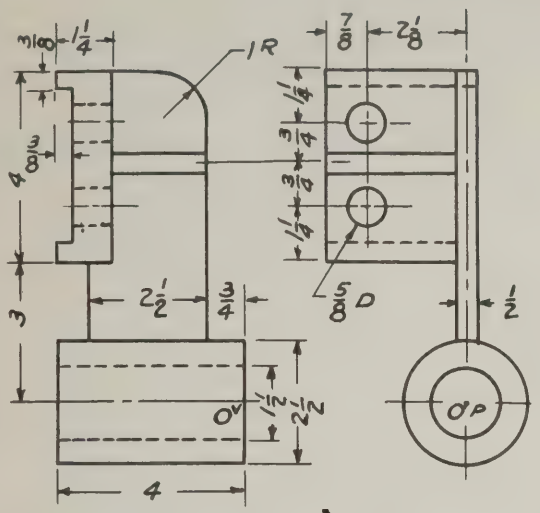
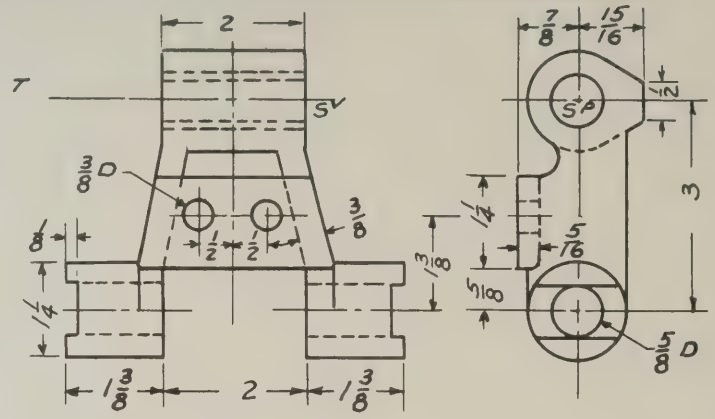
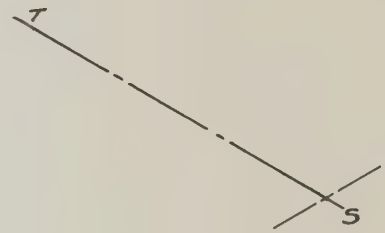
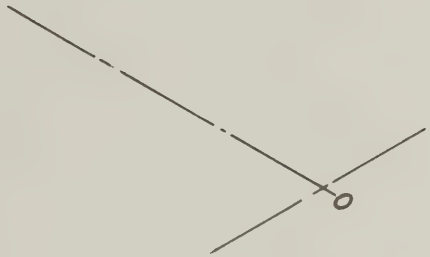
Make isometric drawings.









Size $\frac{3}{8}$ = 1"

Scale 6" = 1'-0"

FILE		DR.BY.	DATE	63 A

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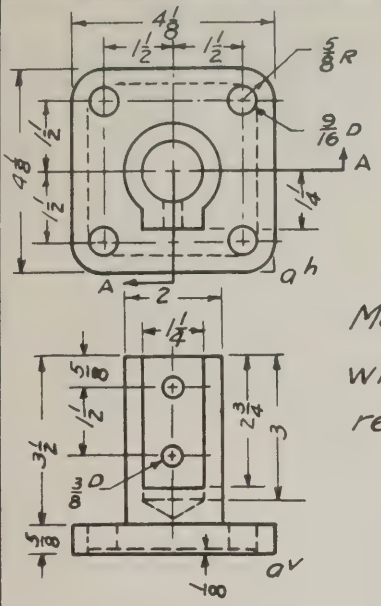
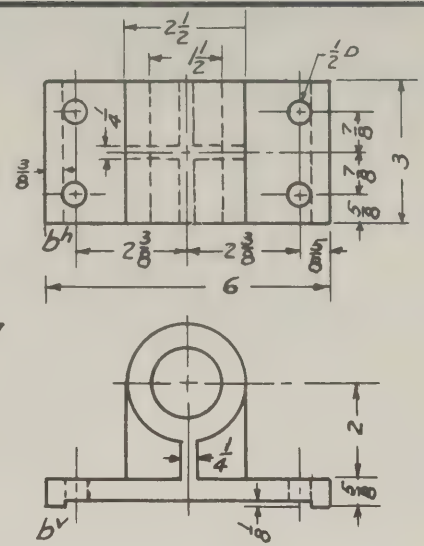


Make isometric drawing with section A-A removed.



Make isometric drawing and give required dimensions isometrically.

a

b

Scale 6" = 1'-0"

FILE		DR.BY.	DATE	64A

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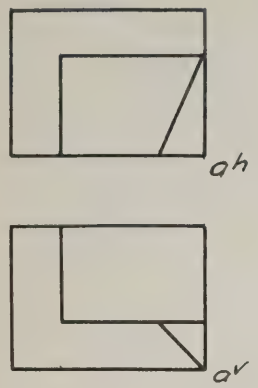
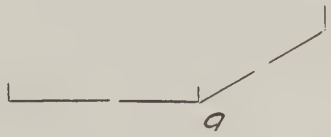
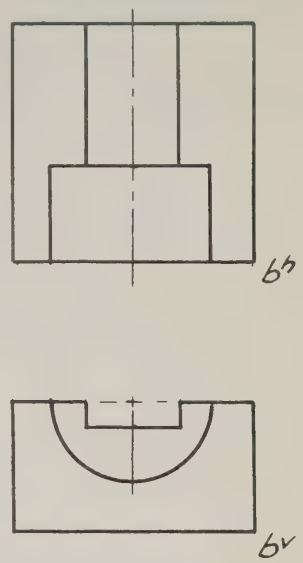
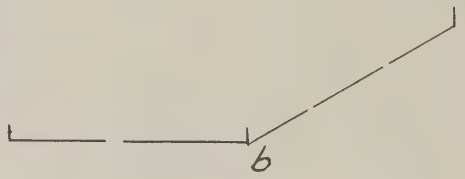
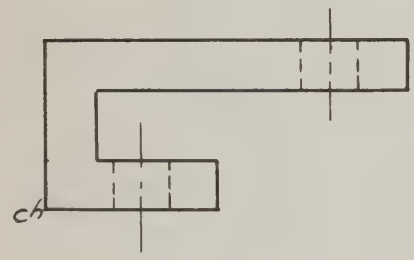
Make oblique drawings of the given figures.

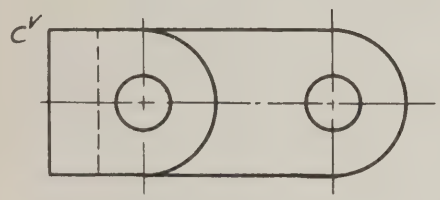


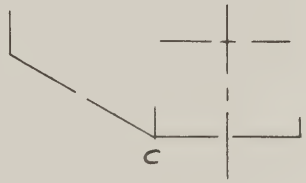


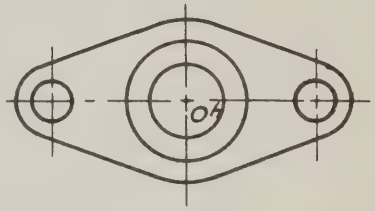


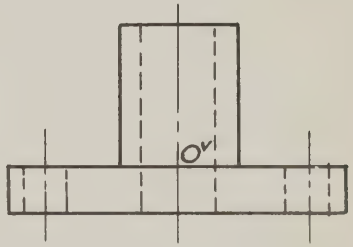


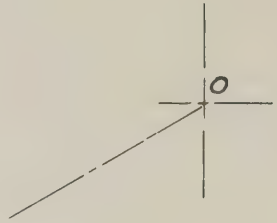












Scale 12"=1'-0"

FILE		DR.BY.	DATE	65 A

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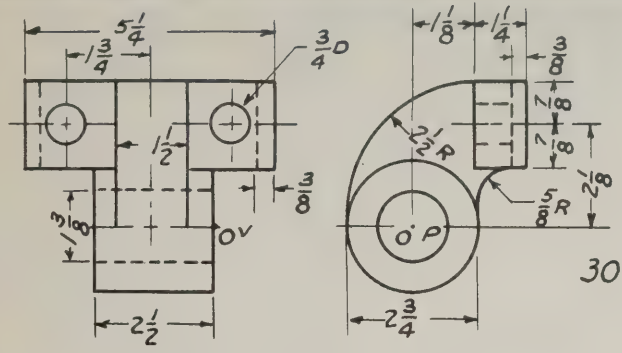
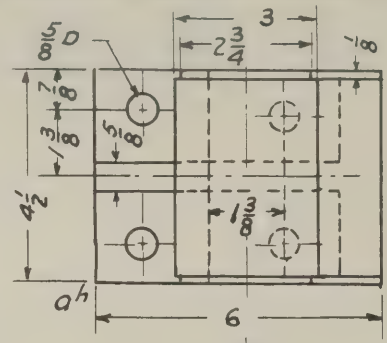
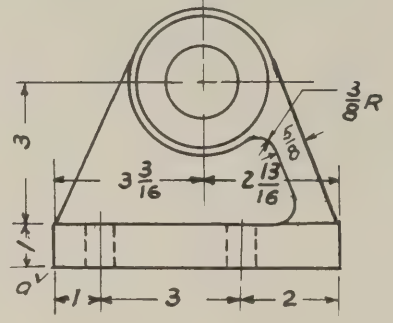
Make oblique drawings.

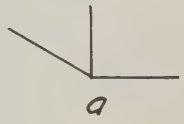


30° to left

30° to left







Scale 6" = 1'-0"

FILE		DR.BY.	DATE	66 A

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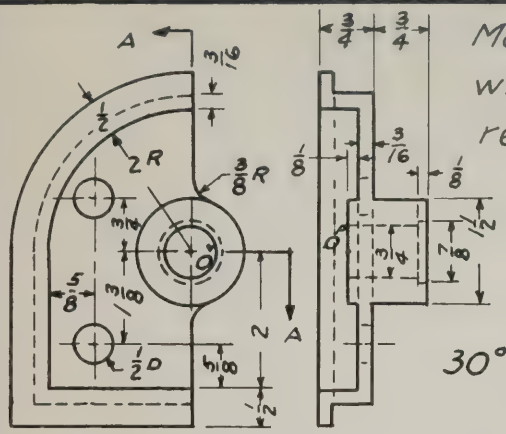
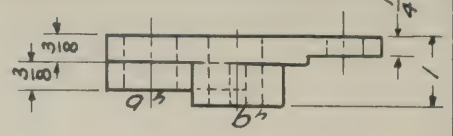


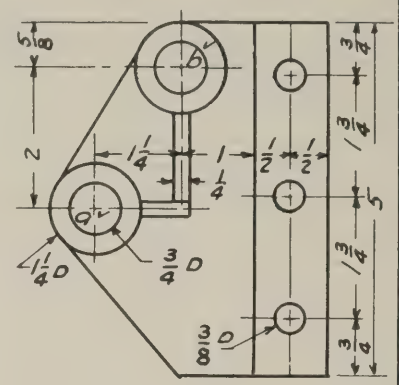
Make oblique drawing with section A-A removed.

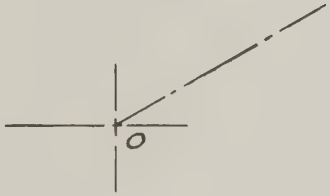
30° to right

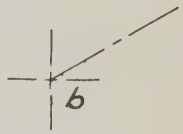


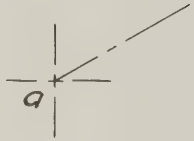
Make oblique drowing.

30° to right









Scale 9"=1'-0"

FILE		DR. BY.	DATE	67A

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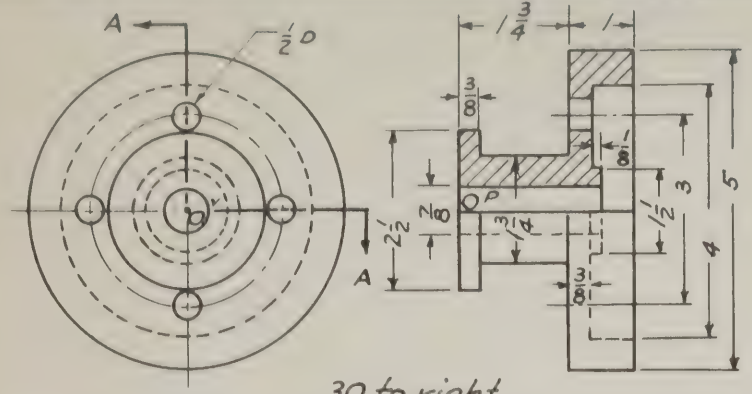
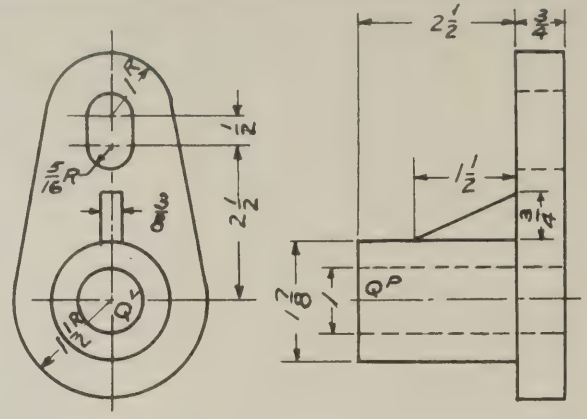
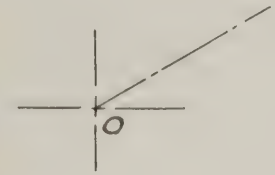
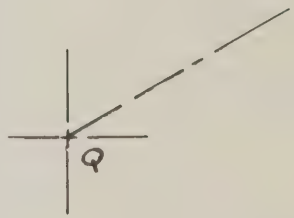


30 to right
Make oblique drawing with section A-A removed.

30° to right
Make oblique drawing with dimensions.







Scale 6"=1'-0"

FILE		DR. BY.	DATE	68A

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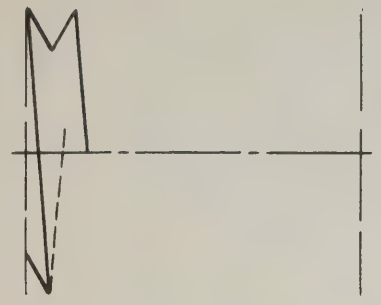
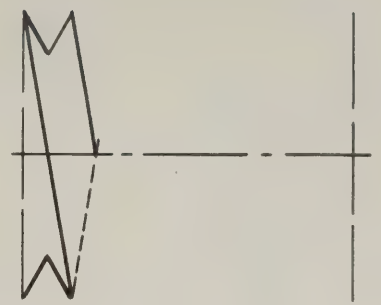
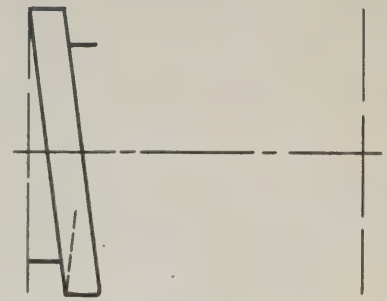


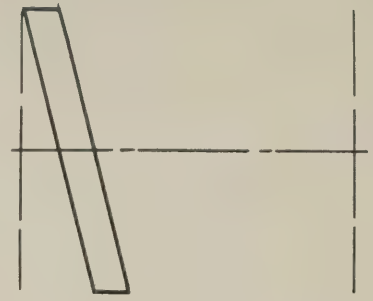
V-Thd. Single



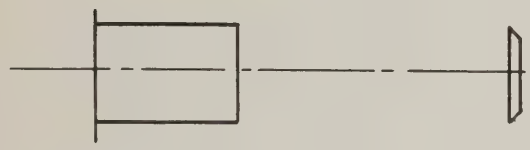
V-Thd. Double



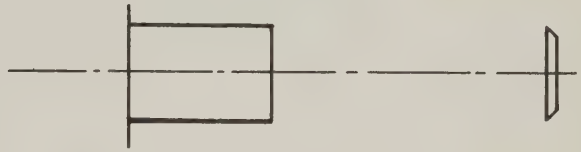
Sq. Thd. Single



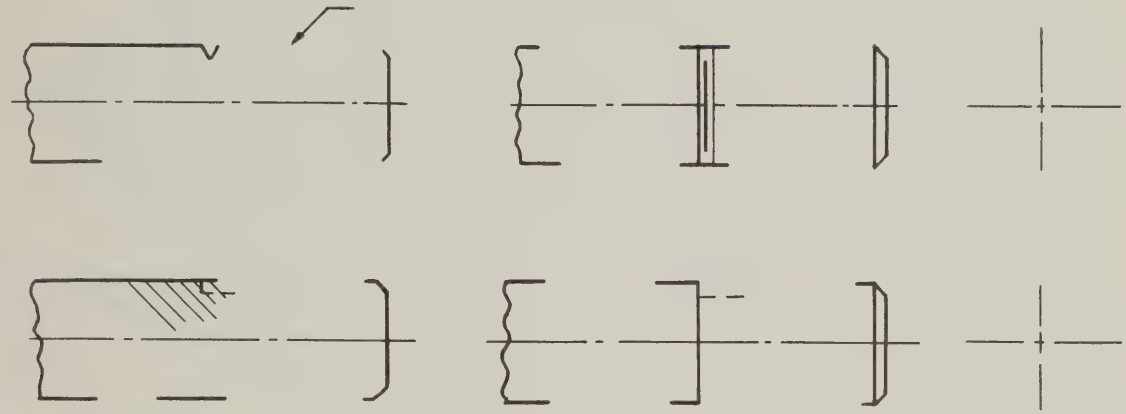
Sq. Thd. Double



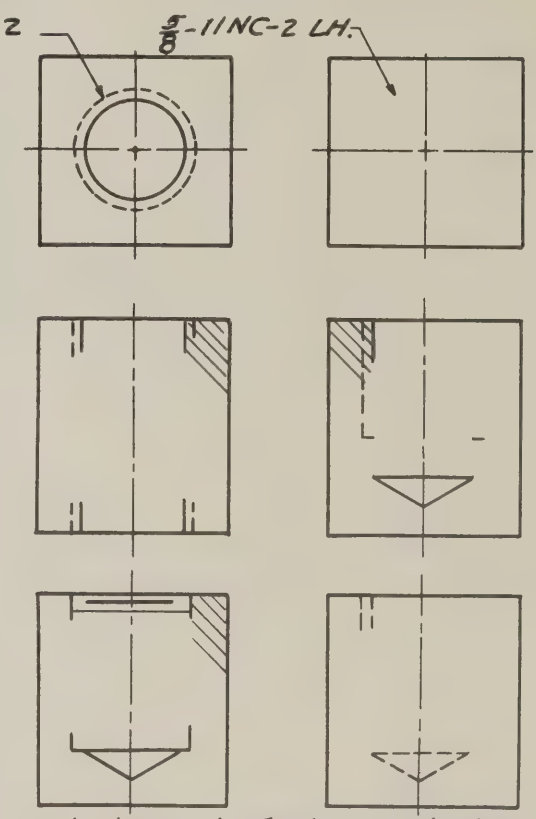
½ Hex. Hd. and Hex. Nut.



½ Sq. Hd. and Sq. Nut.



External Thd. Symbols.



Internal Thd. Symbols.

FILE		DR. BY.	DATE	69A

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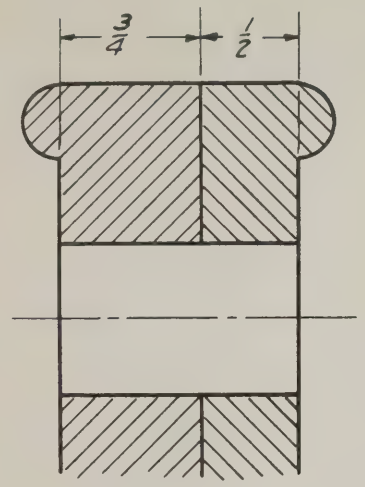
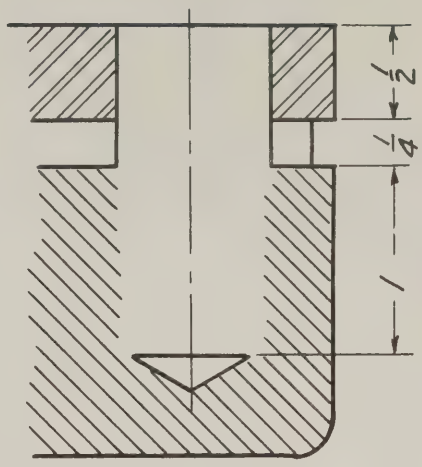
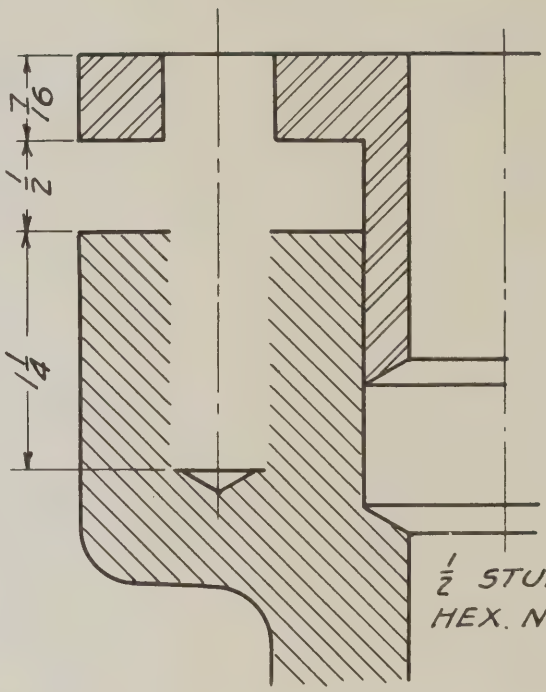


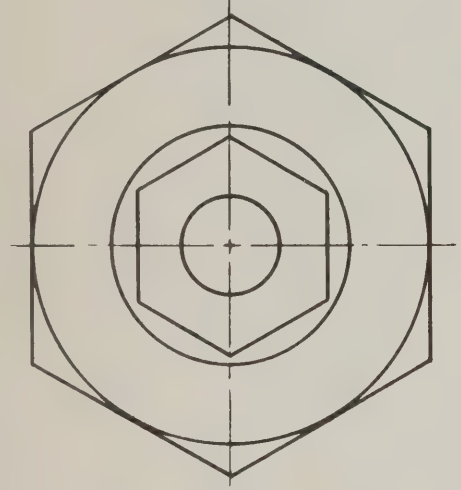
3/4 HEX. HD. BOLT WITH HEX. NUT.

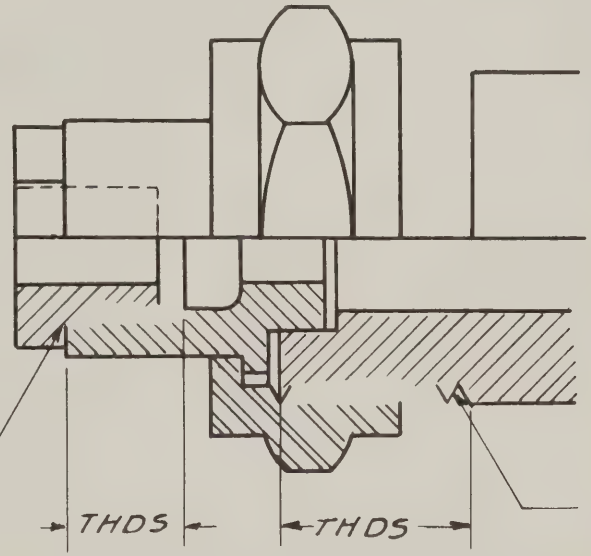


3/4 HEX. HD. TAP BOLT



1/2 STUD WITH HEX. NUT.





For each figure draw the required fastening and give its dimensions.

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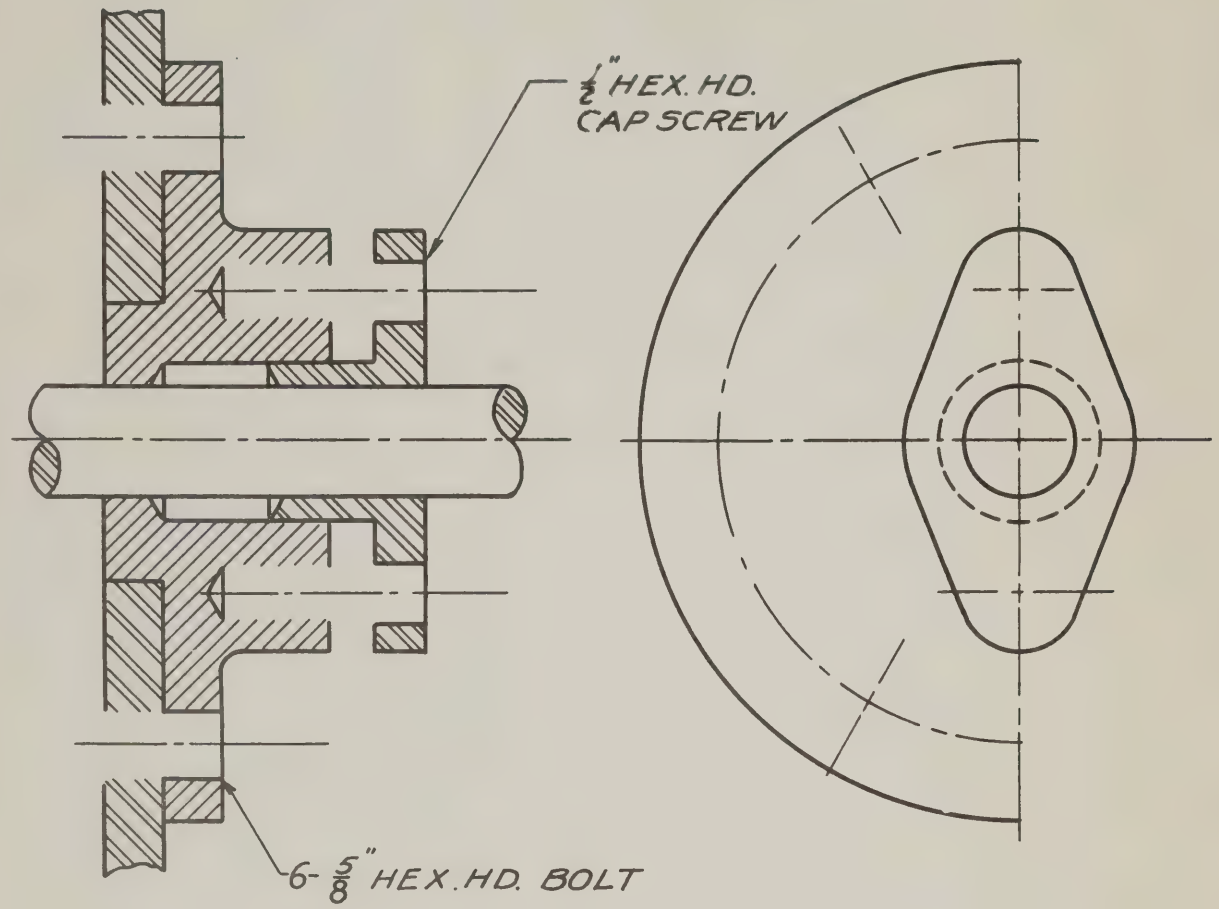
Complete the views showing the fastenings. Dimension completely.



Scale 6" = 1'-0"

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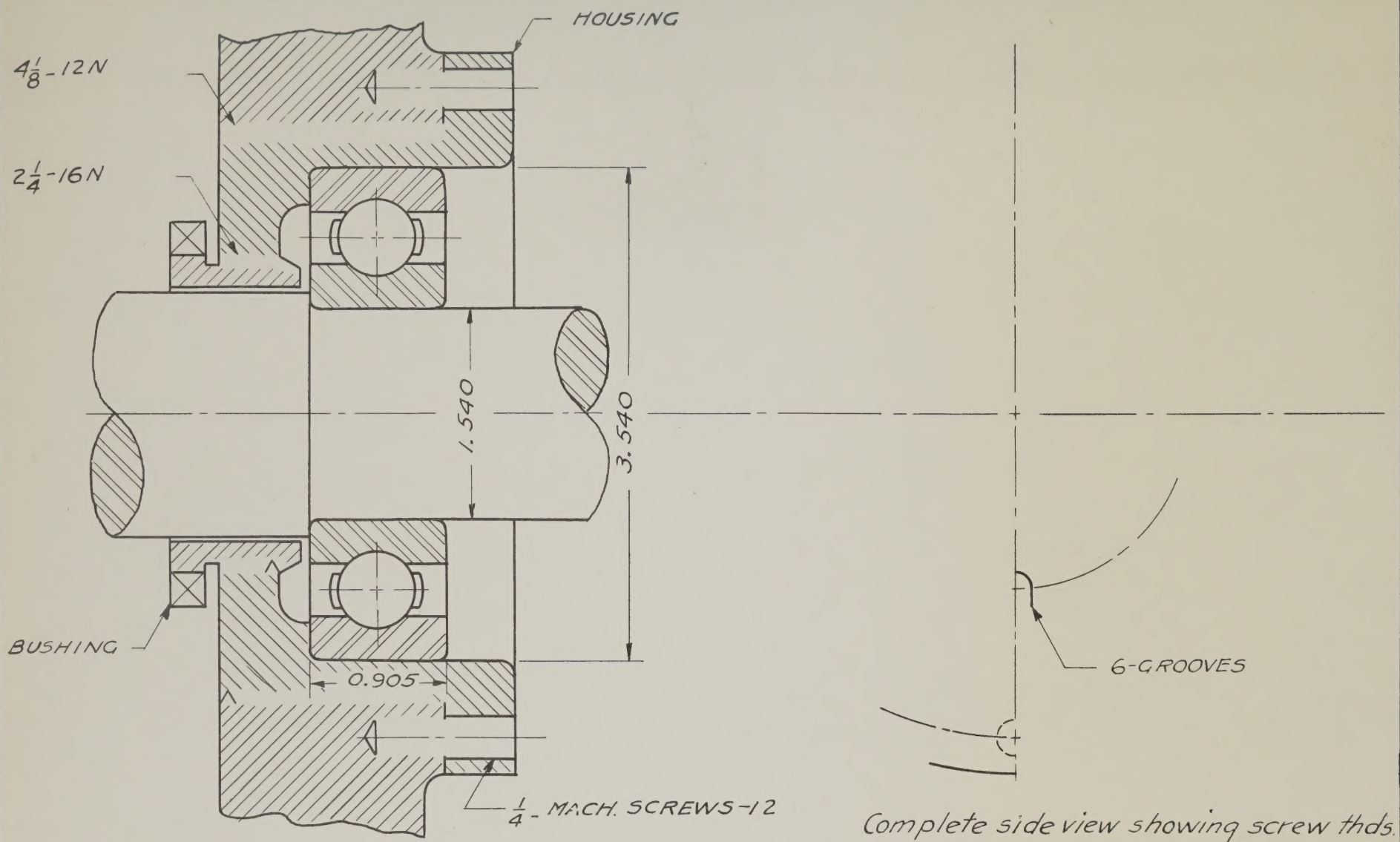

Complete side view showing screw thds. and mach. screw. On front view show one half of housing and bushing.

Scale 12" = 1'-0"

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